ROM

volume 45:number 4
2013 spring

Spring 2013 **$5.95** CAN

Magazine *of the* Royal Ontario Museum

LEARNING FROM LIZARDS: HOW GECKOS STICK AND HOW WE CAN TOO *Plus:* The Golden Rules of Sustainable Mining / Mesopotamia blockbuster comes to town / Sebastião Salgado and the Genesis of his new photos / New flags from old wars / Digital tree tours of Toronto / ROM travel heads south / And more!

STUCK on geckos p. 30

Display until June 15, 2013

7 72006 86280 6 01

PORSCHE DESIGN
PORSCHE DESIGN
FASHION
P'1000
Porsche Design | 77 Bloor Street West | Toronto | phone 416 929 1800 | porsche-design.com
Berlin | Beverly Hills | Dubai | Frankfurt | Hong Kong | Las Vegas | Mexico City | Miami | New York | San Francisco
Singapore | Sydney | Toronto

Spring 2013
Volume 45, Number 4

p.8 Baobab trees on a mushroom island in Bay of Moramba, Madagascar. 2010. Part of *Genesis*, Sebastião Salgado's spectacular new photo exhibition, opening at the ROM in May. See our interview with the world-renowned photographer in this issue and online.

Contents

Features

22 Digging Deeper
The new Barrick Gold Gallery explores the complex issues of sustainability in mining—and uses cutting edge gaming technology to do it.
BY COURTNEY MURFIN

25 Picking Up the Pieces
In anticipation of our spectacular new Mesopotamia exhibition, we get the real story on the looting of Iraq's treasures since 2003.
BY CLEMENS REICHEL

30 Sticky Fingers
How one ROM conservation specialist got stuck on "Gecko adhesives"... and decided to make her own.
BY JULIA FENN

Digital Tours **p.17**

Front

2 Contributors
3 First Word
4 Journal
13 Ask an Expert
14 ROM in the World
16 ROM Community
17 Behind the Scenes
18 My ROM
20 Curators

Back

34 Backyard Biodiversity
36 ROM Style
37 ROM Spaces
38 ROM Travel
48 Exhibit A

Member News

39 Martha Henderson
41 Member Profile
42 News and Events

ROM Governors

43 Dianne Lister
44 Young Patrons Circle
45 Ancient Prom
46 Supporter Profiles

ON THE COVER

Main: Gargoyle Gecko *Rhacodactylus auriculatus*. © Robert King.

Inset: Crystallized gold. Barrick Gold Corp.

INFORMATION

Royal Ontario Museum
100 Queen's Park
Toronto, ON M5S 2C6
Switchboard: 416.586.8000
Website: rom.on.ca
Email: info@rom.on.ca

HOURS
Saturday through Thursday:
10 a.m. to 5:30 p.m.
Friday: 10 a.m. to 8:30 p.m.

ROM LIBRARY
Public hours: Monday, Wednesday, and Friday: 10 a.m. to 4:30 p.m.
Tuesday: 10 a.m. to 5:30 pm.

ADMISSION PRICES
ROM Members: FREE*
Adults: $15
Students and seniors with ID: $13.50
Children (4 to 14 years): $12
Infants 3 and under: FREE

Discount admission on ROM Friday Nights, presented by SunLife Financial, from 4:30 pm to 8:30 pm: Adults $9; Students and seniors with ID $8; Children $6. Feature exhibitions are an additional $10 for adults, $9 for seniors/students, and $5 for children.

Admission is free on Tuesdays for post-secondary Canadian students with ID.

Museum and Arts Pass Program participant.

**All adult Members must present a valid membership card and photo ID. Membership cards are not transferable except for RPC Members.*

Photograph: Sebastião Salgado/Amazonas Images. Illustration: Izhar Cohen.

Julia Fenn
SENIOR CONSERVATOR,
ETHNOLOGY AND FOLK ART

Working to conserve and protect objects arriving at the ROM from across Africa, Europe, and North America has led to many fascinating challenges for Julia Fenn over her 37 years at the museum. Recently, for instance, she worked on a Ghanaian painted fish coffin, rescuing it from an attack of tropical wood-borers. With a BA in Archaeology from Cape Town University and a post-graduate diploma from London University, Julia has practiced and taught conservation in England, Turkey, Israel, South Africa, and Canada. When she is not studying (and replicating) the adhesive qualities of geckos (and battling wood-borers), Julia lately has been specializing in 19th- and 20th-century plastic artifacts.

Courtney Murfin
INTERPRETIVE PLANNER,
GALLERY DEVELOPMENT

As an interpretive planner at the ROM, Courtney Murfin works across many departments and with a wide range of curators and designers. Her job is to help develop storylines for an exhibit or gallery, ensuring key ideas are displayed in a way that is clear, easy to understand, and engaging. With the tremendous variety of content at the ROM, Courtney has worked with everything from ancient Chinese toys to African coffins, from water-saving tips to the challenges of modern mining. Before the ROM, Courtney earned a Masters of Museum Studies from the University of Toronto, and independently developed exhibits for the Pickering Museum Village and University of Toronto.

Clemens Reichel
ASSOCIATE CURATOR,
ANCIENT NEAR EAST

Clemens Reichel is associate curator of the ROM's Ancient Near East department and assistant professor in the Department of Archaeology at the University of Toronto. He is also the ROM's curator on the upcoming Mesopotamia exhibition. Clemens's research interests concentrate on complex societies and the evolution of urbanism. Holder of a PhD in Mesopotamian Archaeology, he has a comprehensive background in Sumerian and Akkadian, Mesopotamia's ancient languages written in cuneiform. His publications include studies on the archaeological use of written sources and aspects of divine kingship in Mesopotamia. Following the looting of The Iraq Museum beginning in 2003, he coordinated the creation of an on-line database of missing artifacts.

Nicole Richards
COORDINATOR,
LIFE IN CRISIS: SCHAD GALLERY OF BIODIVERSITY

With a BSc in Zoology and a Masters in Environmental Studies, Nicole has always had a passion for biology and conservation. As coordinator of the Schad Gallery, she draws on her education as well as her previous experiences working at organizations such as the Toronto and Region Conservation Authority and the Toronto Zoo in her efforts to highlight the important relationship between nature and humanity. With the help of staff, volunteers, and external partners, she is excited to be providing Museum visitors with an understanding of the need and means of conserving biodiversity, effecting positive change for our planet's future.

NEW
BOOK FROM
ROM PRESS

Beyond Clouds and Waves
Daoist Paintings in the Royal Ontario Museum

Ka Bo Tsang Lennert Gesterkamp Klaas Ruitenbeek

Available April 1 at the ROM Museum Store, bookstores, and on-line

Detail from *Homage to the Celestial Worthy of Primordial Beginning*, temple mural. ROM 933.6.3.

The ROM in the World

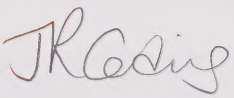
A quick glance at the contents page of this issue of *ROM* magazine illustrates an important fact about your local museum: that the Royal Ontario Museum is working on a global scale. From the bright, whimsical Asafo flags of Ghana on page 10 to ROM Associate Curator Clemens Reichel's disquieting account of the looting of The Iraq Museum and its invaluable Mesopotamian heritage (p. 25), virtually every article in this issue has an international angle. (Even our last-page tribute to the late Doni, beloved Komodo dragon resident for years at the Toronto Zoo, has a broader perspective in support of a global biodiversity campaign.) This is fitting: after all, the museum has in its collection objects from every corner of the planet, and as a look at our curators' "Where in the world are they?" page in this issue confirms, our staff are out in the world now.

Not only are we in the world, we are of the world, motivated by our mission to make the lessons of history relevant. We are expanding horizons while shrinking the sweep of world history to a human perspective. This is particularly true of our upcoming exhibitions. First, ROM Contemporary Culture is hosting the North American premiere of *Genesis*, renowned photographer Sebastião Salgado's awe-inspiring new show chronicling the last unspoiled reaches on Earth. And coming in June for six months, an exciting new exhibition devoted to Mesopotamia (present-day Iraq) as the shared birthplace of the world's civilizations.

We are expanding horizons while shrinking the sweep of world history to a human perspective

I had occasion recently to tour South Korea, visiting many terrific museums and meeting with my counterparts to discuss the issues we have in common and the tremendous potential that exists for meaningful collaboration: sharing artifacts, of course, but also expertise and insights. I invite you to read about it on page 14. It is a relationship that I am confident will grow and flourish.

Finally, on the subject of travel and experiencing life elsewhere, I draw your attention to one more article in this issue: "Learning to Belong" on page 41. It is a small story, a familiar tale of a family newly arrived in Canada from Brazil, ready to start anew in a strange land. For them—Danielle, Helio and their young daughter, Maya—the ROM became, as Danielle puts it so nicely, their "Rosetta Stone," their guide to life in a new world. Living in what is arguably the most international city in the world, Torontonians already know and have embraced the positive power of multiculturalism. As a newcomer myself, I think it is a big part of what makes this city great. And this is true for the ROM as well, for in a very real sense, while we work all over the earth, the world is right here in our backyard.



JANET CARDING
DIRECTOR AND CEO

ROM Royal Ontario Museum

ROM
Magazine of the Royal Ontario Museum

Publisher
Kelvin Browne

Editor, Digital & Print
Matthew Church

Production Editor
Sheeza Sarfraz

Art Director
Tara Winterhalt

Production Designer
Claire Louise Milne

Copy Editor
Anna Kohn

Photography
Brian Boyle (unless otherwise indicated)

Contributing Editors
Mary Burridge
Denise Dias
Mark Engstrom
Peter Kaeligren
Amy Lathrop
Dave Rudkin
Sheeza Sarfraz
Kevin Seymour
Janet Waddington

Editorial Offices
ROM, magazine of the Royal Ontario Museum
100 Queen's Park
Toronto, ON M5S 2C6
416.586.5861
magazine@rom.on.ca
www.rom.on.ca

Advertising Sales
ROM magazine
100 Queen's Park
Toronto, ON M5S 2C6
416.586.5652
magazine@rom.on.ca
www.rom.on.ca/media/pdf/mediakit.pdf

Published four times per year by the Royal Ontario Museum through the generosity of the Louise Hawley Stone Charitable Trust.

© The Royal Ontario Museum, 2013.

Printed and bound in Canada by MIL/RR Donnelley. Indexed in the Canadian Periodical Index and the Canadian Magazine Index, and available on-line in the Canadian Business & Current Affairs Database ISSN 1911-947X and through Thomson Gale.

Canadian Publications Agreement #40068986.

Return undeliverable Canadian addresses to Royal Ontario Museum Membership Department 100 Queen's Park Toronto, ON M5S 2C6.

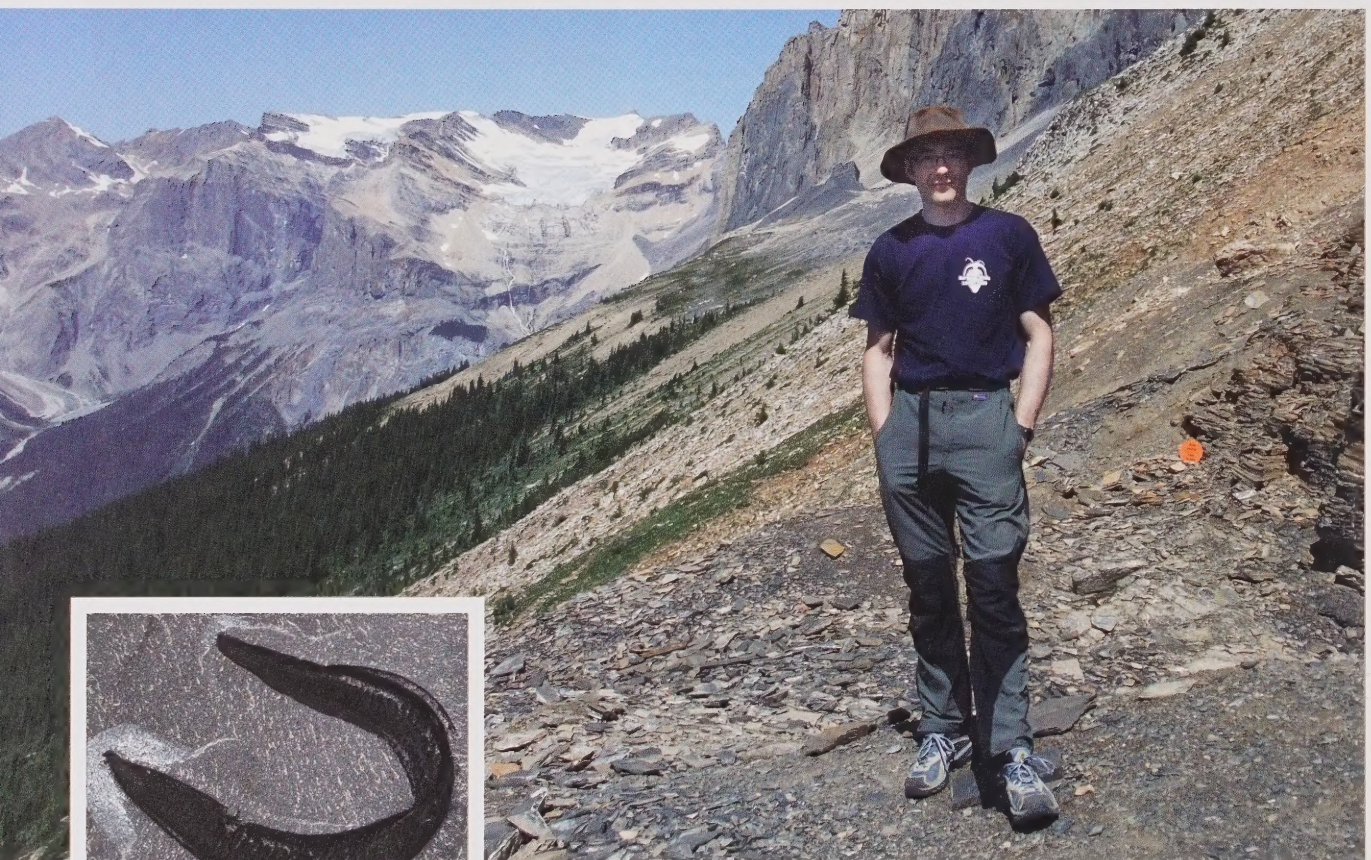
Subscriptions and Single Copy Sales
Subscription cost (four issues) $20 including HST; outside Canada add $8 for postage and handling; single copies cost $5.95 plus HST.

All circulation and subscription inquiries should be addressed to: *ROM* magazine
Royal Ontario Museum
100 Queen's Park
Toronto, ON M5S 2C6
416.586.5870
julieg@rom.on.ca

FSC www.fsc.org MIX Paper from responsible sources FSC® C101537

ROM magazine is printed on paper from well-managed forests and is chlorine and acid free.

Discoveries & Dispatches



Jean-Bernard Caron at the Burgess Shale site (Walcott Quarry), Yoho National Park.

Inset: A fossil of *Pikaia gracilens* found at Yoho National Park.

Honours
Top 10!

La Recherche, one of the most respected science magazines in the French-speaking world, recently announced its Top 10 stories for 2012 (*Les 10 plus belles découvertes de l'année*). And the ROM made the list!

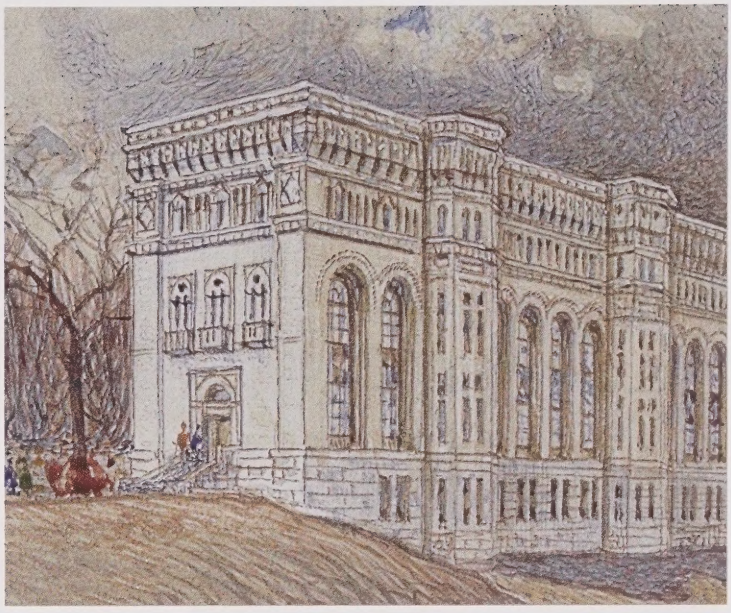
Included alongside such ground-breaking work as the identification of the Higgs Boson and the continued expansion in our understanding of the active components of DNA, was the announcement of the discovery of *Pikaia gracilens* as a primitive ancestor of all vertebrates, including humans. Jean-Bernard Caron, curator of Invertebrate Palaeontology at the ROM, and colleague Simon Conway Morris from the University of Cambridge announced their discovery in March 2012.

Found only in the renowned Burgess Shale fossil beds in British Columbia's Yoho National Park, *Pikaia gracilens* may seem modest—it resembles a worm—but this 505-million-year-old creature is the most primitive known vertebrate. That makes it the ancestor of all descendant vertebrates, including humans. "Swans, snakes, bears, zebras and, incredibly, humans all share a deep history with this tiny creature no longer than my thumb," said Caron, co-author of the study.

To learn more about this amazing discovery and its implications, or if you want to learn more about the Burgess Shale fossil beds, visit the ROM/Parks Canada award-winning website at **burgess-shale.rom.on.ca**.

Photos courtesy Jean-Bernard Caron

Celebration
99 Years and Counting



Yes that's right, this year the Royal Ontario Museum is marking its 99th birthday. Meaning we have already begun work on a spectacular 2014 full of activities, innovations, and celebrations to mark our centennial year.

Over the next few months, we will be unveiling an exciting array of announcements. Watch our website, newsletters, Facebook page, and tweets for some major developments, including a new ROM identity, more news on our innovative Centres of Discovery, some incredible opportunities for audience participation and support, and some dynamic changes to our physical space.

Of course a birthday party is nothing without plenty of guests to help celebrate, so in the near future we will be launching a special page on our website geared to involving you in the fun. First off, keep your eyes peeled for information on our new Love the ROM campaign, kicking off this spring.

Archives
Found Art

Found nestled among the papers and journals of noted Ontario naturalist W. E. Saunders when they were donated to the ROM Archives was a collection of seven watercolours. The images—of Canadian wildflowers—were painted by Saunders's son, Henry Scholey Saunders (1864–1951). Though Henry was a professional cellist who played with the Toronto Symphony Orchestra for 21 years, his interests were wide-ranging and eclectic. He was an internationally recognized authority on Walt Whitman (his extensive Whitman library was acquired by Brown University in 1932); a Toronto-based publisher with 3,000 titles to his credit; and, following in his father's footsteps, he was keenly interested in natural history. Henry's collection of 2,000 insects was donated to the ROM, where it still forms part of the Museum's entomology collection. In Henry's botanical watercolours, represented by this small collection in the ROM archives, his love of nature is evident.—By Arthur Smith, head of the ROM's Library and Archives.

New Media
Going Social

Over the last six months we have increased our activity on the ROM's burgeoning social media platforms: our network of followers has doubled! Now, as the ROM prepares to launch three new "Centres of Discovery," expect to see more access to collections and curatorial expertise and more conversations. So check our Facebook page and follow us on Twitter (@ROMToronto, @ROMPalaeo, @ROMGovs, @ROMKids, @ROMBiodiversity, @ICCulture). But that's not all: keep your eyes peeled for innovative Google+ Hangouts (we launched with curator David Evans in February), Instagram activities, onsite digital tours, new content on YouTube and, at special events like Friday Night Live, be prepared for some playful engagement opportunities! Visit **rom.on.ca** to learn more. It's time to join the digital conversation at the ROM!

Visitors enjoy after-hours access to the ROM during the ROM Friday Night Live programming.

Events
A New Season of FNL

Following on two successful seasons of Friday Night Live in 2012, the ROM is thrilled to announce the return of #FNLROM. A fun and unique social experience in our city, attendees see the Museum in an entirely new way, experiencing a moveable feast of food and drink throughout the ROM's galleries or dancing the night away amid the ROM's collections. This spring, season three will run for eight straight Fridays from May 3 to June 21. We launch this first series of the year with *Latitude with Attitude, featuring the Junos After Dark*, a celebration of the hottest Canadian music. Each week thereafter promises something new and different: be sure to follow us on Twitter at **#FNLROM** for up-to-the-minute information.

Photos: courtesy ElectiCITY Events Inc.

Programs
Always Kidding Around

For moms and dads, how to best keep little (and not-so-little) ones entertained and engaged is a constant challenge. Over the years, thousands of caregivers have found the ROM offers the perfect solution for after school, weekends, and holidays: a safe, interesting, supportive, and fun environment with tons of activities geared to students of all ages, or for the family as a whole.

Between now and the end of the school year, our very popular Saturday Morning Club offers fun-filled, educational adventures in the ROM's galleries and learning labs. Spring programs begin April 13 (running to June). Numbers are limited to maximize fun, so register early on our website. Also coming in April is our next ROM Sleepover, with movies, karaoke, snacks, and breakfast, all laid on for your very own Night at the Museum!

As always, for those planning a family visit, ROMkids Weekends programming offers a bunch of hands-on activities, with new ones constantly being added, so please check out rom.on.ca for the latest. And for a rundown of our most-beloved kid experiences, check out the handy Top 10 ROM Family Favourites (available on the website as a PDF).

Looking for dynamic summer camps? Look no further; for more than 70 years (yes, you read that right, more than seven decades) the ROM has been entertaining, educating, and engaging youngsters over the summer holidays. And with early drop-off, supervised lunches, and extended aftercare, we make it easy for parents. This year's roster of opportunities is once again chock-a-block but sessions will fill up fast so log on to rom.on.ca or call 416.586.5797.

For all the latest updates, bookmark rom.on.ca. And remember to follow ROMkids on Twitter and tumblr.

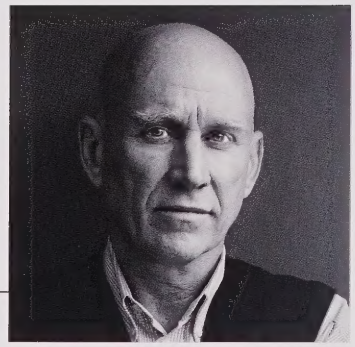
Photos: ROM Sleepover image courtesy ROMkids. Chinese Heritage Day courtesy Denise Yan, Chinese Cultural Centre of Greater Toronto.

Heritage Days
Celebrating Culture

On February 2, the ROM was abuzz with our first annual Chinese Heritage Day. Presented in collaboration with the Chinese Cultural Centre of Greater Toronto, and kicked off by a panel of dignitaries marking the Chinese New Year, the schedule offered a full day of Chinese music, theatre, calligraphy, tea tastings, panda photographs, themed restaurant menus, and kids' activities. The atmosphere was electric. So much so, we are already looking forward to next year's.

But you don't have to wait until then for the next heritage day and fun cultural experience. Coming Saturday, May 11, South Asian Heritage Day at the ROM will offer an equally eclectic experience of all things cultural: everything from Mughal art and Bhandini tie-dye to Islamic calligraphy, from kite-flying and storytelling to live Tabla music and plenty of authentic South Asian food. Then, two weeks later on Saturday, May 25, join us for our third annual Iranian Heritage Day, with live music and dance performances, hands-on activities for kids, art displays, demonstrations, shopping, dining and more.

Check out our online calendar.



ROM Contemporary Culture
The Making of *Genesis*
In Conversation with Sebastião Salgado

Photo of Salgado: UNICEF/HQ01-0123/Nicole Toutounji.

From May 4 to September 4, 2013, *as part of this year's Scotiabank CONTACT Photography Festival, the ROM will be home to the North American premiere of renowned photographer Sebastião Salgado's* Genesis, *an exhibition curated by Lélia Wanick Salgado. It is his third large-scale photo-project examining global issues. The 245 images in the exhibition have been taken by Salgado during eight years of travelling to 32 different locations. These extraordinary images capture the stunning beauty and epic majesty of areas of the globe as yet untouched by the heavy and destructive hand of human "progress."*

Born in Brazil in 1944, Sebastião Salgado has been called an "icon of social conscience," "a solo branch of the United Nations," and "one of the most important photojournalists living today." Prior to Genesis, *Salgado's exhibition* Workers: An Archaeology of the Industrial Age *(1986-1992) focused on the struggle and dignity of large-scale manual labour and its gradual passing in the late-capitalist age.* Migrations *(1993–2000) was a study of displacement and dislocation of peoples by war and by a globalized world economy that had left them financially and physically vulnerable.*

Sebastião Salgado spoke to ROM Senior Curator Deepali Dewan.

Alaska, U.S., June–July 2009 >
At 19.3-million acres, the Arctic National Wildlife Refuge in northeastern Alaska is the largest wilderness sanctuary in the U.S. This photograph was taken in the eastern part of the Brooks Range, which rises to more than 3,000 metres. Sliced by deep river valleys and numerous glaciers, the rugged stretch of mountains presents an immense variety of microclimates resulting from the collision of cold air from the Arctic and warm air flowing from central Alaska.

< **Amazonas, Brazil, May 2009**
Arquipélago de Anavilhanas is the Portuguese name for these roughly 350 forested islands in Brazil's Rio Negro. They form the world's largest inland archipelago, covering 1,000 square kilometres and spanning some 400 kilometres up the Rio Negro from Manaus to Barcelos.

DD: *Genesis* is your most recent in a long line of photography projects. How did it come about?
SS: Every project is born from the previous one. Whenever something has awakened my interest, I have tried to follow it up. Before starting *Genesis*, I had photographed some very difficult subjects—workers, migration, refugees, wars—and I needed a break. With my wife [Lélia Wanick Salgado, the curator of his work and designer of his books] I had launched an environmental project in southeast Brazil to rebuild the ecosystem of 676 hectares of land that once belonged to my family. The beautiful rainforest I had known as a child had been completely destroyed by unsustainable farming. Lélia and I created Instituto Terra, a non-profit organization, and set about planting close to two-million trees, representing more than 300 species. Slowly we witnessed the rebirth of our forest. From this came the idea that we should go in search of places around the world that are still pristine. During our research, we made the incredible discovery that close to half the planet is still much as it was described in the Book of Genesis. So we designed the project and secured the funding and finally I started to photograph in 2004. The work went on for eight years.

DD: Can you speak about the process of creating *Genesis*?
SS: We identified 32 different locations around the world to visit. The entire project required detailed organization because some places were inaccessible in winter and others could *only* be photographed in winter. I was accompanied on most trips by an assistant, Jacques Barthélemy, an experienced high mountain guide. In each place, I also found local guides. On some expeditions, we needed a large team of helpers, on others I worked alone. At different times, I travelled by boat, in balloons, in small planes, by car, and on foot. In the north of Ethiopia in 2008, I walked 870 kilometres across mountains. During this trip, which lasted close to two months, I lived with different tribes.

DD: What role do your photographs of humans play in *Genesis*?
SS: To photograph the people for this project, I went looking for the nearest I could come to [the Old Testament's] Genesis, for how we lived 5,000 years ago, 15,000 years ago. This meant finding ancient people in their element, in their environment, where they live unhurried lives in communion with nature. I did many more portraits than I had ever done before. At times, I created a rustic studio and invited people to pose for me. But for the majority of the shots, I simply spent a long time hanging out with people, watching them go about their lives, waiting for things to happen.

DD: Is *Genesis* intended to move people to make changes in their own lives and in the world around them?
SS: I hope so. But I cannot say that my projects are designed to change the minds of anyone. We are living in an important moment for our planet. The photographs are a way of sharing this historical moment. If my photographs carry this message, all the better. But I have never taken photographs as a campaigner. I'm not an activist. I go to photograph as a photographer. I'm not presenting information as a journalist. Nor am I an anthropologist or a sociologist. For *Genesis*, I am simply a person curious to explore our planet, to see its landscapes, its flora, its other animals. Until now, I had only photographed one animal: us. Now I found animals as rational as we are. I saw trees that were 4,000 or even 7,000 years old. I discovered that landscapes have personality and dignity. They too are very much alive. In the end, *Genesis* gave me eight years of freedom to seek out beauty. I hope these images convey the Earth's strong personality. Ours is a powerful planet to be seen with fresh eyes. For me, *Genesis* is a kind of respectful poem that we are writing about our natural home. o

For more of our interview with Sebastião Salgado, visit **rom.on.ca** and search "Salgado."

Photos: Sebastião Salgado/Amazonas Images.

New Acquisitions

Showing the Proverbial Colours

A new addition to our African collection explores the stunning artistic and martial tradition of Asafo flags in Ghana

For the Asafo military companies of western Ghana, warfare was not reserved for the battlefield. Indeed, competition among groups often had as much an aesthetic component as a military one. Now, an addition to the ROM's African collection–acquired in June 2012 thanks to generous support of the Louise Hawley Stone Charitable Trust–allows us to explore the stunning textile-based artistic tradition associated with these male companies of the Fante people.

This collection of more than 50 flags is an extraordinary introduction to the world of visual, chromatic, and narrative competition that characterizes the public display of Asafo companies. The flags were collected and documented by Federico Carmignani, an Italian diplomat based in Ghana for more than a decade who developed a passion for this spectacular and typically Ghanaian art form. All of the flags in the collection were made in the 20th century, the most recent being specifically commissioned by Carmignani in 2007.

What are the Asafo companies and what are these flags used for? The Fante are Akan people who to this day live along the Ghanaian coast between the country's capital, Accra, and the port town of Takoradi. Internal order and military protection in each state was for centuries the duty of male military organizations called Asafo from *sa* (war), and *fo (*people), with the number of such organizations in each state determined by the size of its territory and population. Organized as military societies, Asafo companies are lead by a chief, called a *supi*, and are each connected to a specific sacred place or *posuban*. These shrines are important ritual places that are home to at least one of the company gods and the company's ritual emblems: the flags, the musical instruments, and other company regalia. Reports of the local military societies have appeared in European documents since at least the 17th century. Still, Asafo companies are not a thing of the past; they continue to be actively involved in the political and public lives of their communities.

Among the regalia used in Asafo ritual and displays, the flags, called *frankaa,* are the most important. Each company has a number of flags that represent in vivid ways the ethos of the group through text and images. Flags are replaced when worn out, and new flags are commissioned to celebrate important occasions in the life of the company or for specific ceremonies. *Frankaa* are said to be the material embodiment and display of the company's spirit, reflecting its specific history. Unlike their European equivalents, Asafo flags tell stories and challenge adversaries through their striking visual statements based on proverbial knowledge.

Photos: Red flag with vessel, ROM 2012.65.4; snake, ROM 2012.65.24; green flag, ROM 2012.65.1; fish in net, ROM 2012.65.9; black flag, 2012.65.5; by Andrea Di Fuccio courtesy of Federico Carmignani.

A snake does not bite a man without cause

We control the cock and the clock-bird

Our enemies are like fish caught in the dragnet

These proverbs are bold affirmations of a company's military force and its ability to control and protect the territory from external attacks. "Our enemies are like fish caught in the dragnet," affirms an ocher flag. "Even if you are an able hunter, never dare to hunt under the tree of an eagle," admonishes the black flag pictured at the bottom of this page. "A snake does not bite a man without cause," warns a flag with a yellow background. Some *frankaa* claim advantage by referring to the proverb "We control the cock and the clock-bird." Both these birds announce dawn with their

Asafo flags are the material embodiment and display of each company's spirit, reflecting its specific history

cries, so in essence this *frankaa* is asserting that its owners possess the supernatural ability to control time and decide when things will happen. Some flags portray boats, planes, telegraph lines, and other technologies, warning of the companies' abilities to move fast, communicate effectively, and overcome the enemy, thanks to superior intellectual and organizational abilities.

Together, these impressive textiles illuminate a fascinating and living part of African history, offering a visually compelling statement of the power of the proverb, even in the military arena. o

SILVIA FORNI is curator of anthropology in the ROM's Department of World Cultures.

Even if you are an able hunter,
never dare to hunt under the tree of an eagle

PINK TARTAN

77 Yorkville Avenue

Patently Innovative

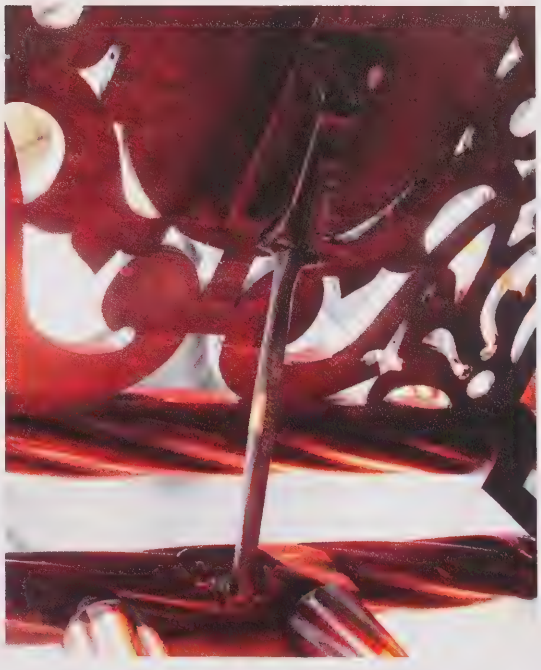
Uncovering the mystery of a mechanical chair

BY ROBERT LITTLE

Q I am sending you images of a chair in my collection, hoping that you might be able to more closely identify its provenance. It is a mahogany library chair, though the flip-up writing surfaces are veneered. When I found it in Boston, I was told that it might date from the 1880s. Thank you so much for any thoughts you might have.
— Caroline Jonas

A Caroline, thank you for your inquiry. Your unusual chair with the collapsible armrests was most probably made by the firm established by George Hunzinger (1835–1898). Active in New York City after 1866, Hunzinger was one of the most innovative furniture makers and designers working in the 19th century. Although he thrived during the period when the Arts and Crafts movement and its emphasis on handcraftsmanship was at its greatest influence, Hunzinger exploited the possibilities of machine production and employed interchangeable parts and mechanical devices, such as the collapsible armrest. He was able to secure more than 20 patents for various mechanical elements that he devised for his furniture, such as rocking chair mechanisms, wholly collapsible chairs, and the like. The Hunzinger firm was granted a U.S. patent (no. 624,812) for an armchair with collapsible arms on May 9, 1899, a year after Hunzinger's death. Issued to his executors—Mary S. Hunzinger, George Jr., Alfred Hunzinger, and Henrietta Hunzinger—the patent indicates the inventor was George Hunzinger and that he was deceased. The chair illustrated on the patent application has somewhat different details from your example; the legs are completely different. Your armchair is a variant in style, but with the same patented principle of the collapsible arms. A version of your chair, identical, but with simpler arm flaps, was made during the period when the patent was under application. Apparently the design for this example could have been made by George Sr. before he died, or by his son George Jr. The mark on the underside of the metal hinge on your chair seems to read "Pat. Jan...." after which the image is unclear. This may mean that the patent was renewed at a later date. The Hunzinger firm continued in production until about 1925. The arm flaps on your chair, with their elaborate pierced decoration, may have been a special order. For additional information on Hunzinger, you might consult Barry R. Harwood's *The Furniture of George Hunzinger, Invention and Innovation in Nineteenth-Century America* (Brooklyn: Brooklyn Museum of Art, 1997). ○

ROBERT LITTLE is the Mona Campbell Curator of European Decorative Art in the ROM's Department of World Cultures.



Despite thriving during the height of the Arts and Crafts movement, George Hunzinger's New York firm focused on machine production, interchangeable parts, and innovative mechanical devices, like this patented collapsible armrest.

Photos courtesy Caroline Jonas.

A Meeting of Museums

ROM CEO Janet Carding travelled to Korea recently to meet and share ideas with her counterparts there

BY MATTHEW CHURCH

Late last year, ROM CEO Janet Carding visited the Republic of Korea as a guest of the government on a whirlwind tour of eight major museums and palaces over five days. The purpose of the mission was to build on the already warm relationship between Canada and Korea, with a goal of exploring ways in which the Royal Ontario Museum might work more closely with our Korean counterparts, including increasing the cooperation and facilitating loans between the institutions. "Increasingly, major museums around the world are working in partnerships, sharing collections and knowledge," says Carding. "This visit gave me the chance to start conversations with the key museums that will, I hope, eventually bring more of the exquisite culture of Korea to Canadian audiences."

SEOUL MUSEUM OF HISTORY

Encompassing more than 600 years of Korean history, from the Joseon Dynasty to the present day, the museum captures the tumult and transformation of Korea's capital and its history, with a fascinating focus on everyday life. Highlights include a recreation of the entrance gate of ancient palace and a carefully restored 19th-century Jeon Gyeong-ri. The museum highlights for me the scale and pace of the country's transition to modern city life, which has happened rapidly over the last 50 years.

Photo: Seoul Museum of History. © Topic Photo Agency/Corbis.

NATIONAL MUSEUM OF KOREA

Opened in 2005 and named the world's sixth-largest museum, the new National Museum of Korea is a thing of harmony and contemporary style. It houses more than 310,000 national relics and artifacts, and boasts a exhibition gallery, an outdoor open plaza, and a unique outdoor restroom area and brooks, waterfalls, and green fields. Janet Carding: "The new National Museum houses many of the country's treasures, including a remarkable collection of celadon ceramics. It was here I truly appreciated the striving for elegant simplicity which has been a crucial part of Korean culture."

THE KOREAN FOLK VILLAGE

Recreating life in rural Korea of 300 years ago, the sprawling "outdoor" museum more than 260 traditional houses filled with historic household goods and various Korean pottery, famous wares, screen sockets, paper embroidery and heavy, carved furniture. Janet Carding: "In such a forward-looking country, the open secrets of the people's agricultural past, with its simple houses and kimchi pots, was a bit of a surprise—and I found them extremely private. But the combination of an abiding interest in how the parents and grandparents lived, and a happy populist historical hyperlocal agenda, had made this a must-see weekend trip for families."

Driven by decades of industrial growth and seemingly immune to the recession that has gripped much of the world, Korea is also experiencing something of a cultural boom. Korean culture, like its economy and position in the world, is blossoming.

And it's not just last year's K-Pop internet phenomenon PSY and his "Gangnam Style." Major public museums and art galleries have experienced fantastic growth, supported by enlightened sponsorship and support from some of the country's—and the world's—most successful companies—think Samsung or Hyundai.

With so many cultural institutions expanding their buildings and growing their collections there has been a boom in historical acquisitions as well, driving up prices of important Korean artifacts. As a result it has been very difficult for any non-Korean institutions to compete when important objects come to auction. It is with this in mind that Korean culturecrats are actively seeking lending relationships with major museums overseas. Recognizing that their culture is comparatively little-known, they are determined that Korea's rich history and vibrant creative past be made accessible to the wider world.

The ROM is well-positioned to partner with Korean museums. Already home to a small but impressive Korean collection, the museum is very keen to showcase the best of Korean history and culture. Enhancing the Korea Gallery, a current project based on the generous support of the National Gallery of Korea, is an important step in strengthening the ROM's presentation of Korean art. The ROM looks forward to continued cooperation with the National Museum and with the Canadian Korean community as it develops future displays in the Korea Gallery and strives to deepen its curatorial strengths in this area.

The relationship is a natural, given the large and growing Korean population in this country. According to South Korea's Ministry of Foreign Affairs and Trade, as of 2009 there were approximately a quarter-million people of Korean descent living in Canada, the country's fourth-largest offshore population (behind only China, the U.S. and Japan). Further, Statistics Canada posits that more than half live in southern Ontario, making them a large and important cultural presence in the ROM community.

Janet Carding: "This visit gave me the chance to start conversations with the key museums that will eventually bring more of the exquisite culture of Korea to Canadian audiences"

While in South Korea, Carding was generously hosted at numerous events and spent hours exploring several of the country's most impressive museums. Among the highlights of her visit were the museums pictured here. o

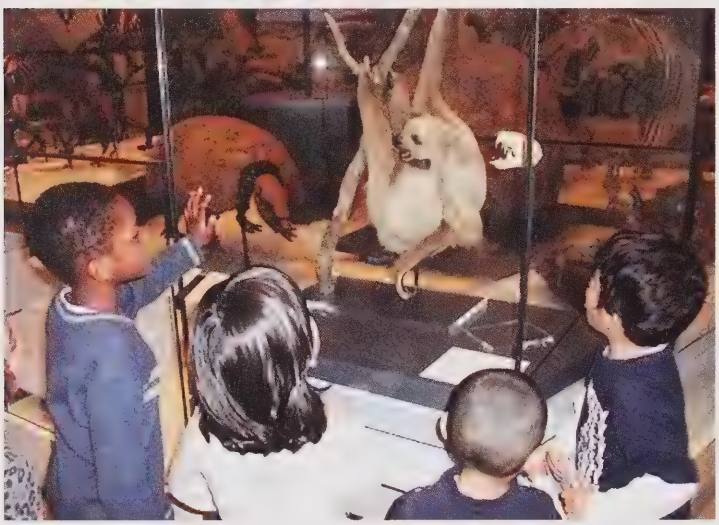
MATTHEW CHURCH has recently been appointed the ROM's Editor, Digital & Print.

Photos: National Museum of Korea courtesy Robert Koehler. Folk Village. © Vince Streano/Corbis.

ROMCAN Puts Kids Up Front

Ensuring equal access to the Museum for new visitors of all ages

BY LINDSAY OUGHTRED



Every month last year Kids Up Front was able to send more than 200 children and youths to the museum.

Since 2008 *the Royal Ontario Museum's Community Access Network (ROMCAN) has worked to make the Museum accessible to everyone by providing free admission and direct access to particular communities and individuals. Our programs include Free Tuesdays for Post-Secondary Students, the New Canadian Citizens Cultural Access Pass Program, and the Sun Life Financial Museum + Arts Pass. The Kids Up Front Foundation is one of our 50-plus partnerships with non-profit community organizations in the Greater Toronto Area. Through these partners, we are unlocking the ROM's power to engage, share, and inspire a greater diversity of visitors. For more information, contact us at* accessibility@rom.on.ca.

The Kids Up Front Foundation has a pretty simple premise: we provide free tickets to arts and cultural events to 185 (and growing) charitable partners and schools. Our work provides new opportunities that educate and inspire by removing barriers and providing children and families in need with the opportunity to experience a live theatre production, a movie, a trip to the museum, a concert, or a hockey game—perhaps for the first time.

In 2006, the Royal Ontario Museum became one of our very first partners: the visitor relations team responded to a letter I had sent, as executive director, introducing ourselves with a free family pass. I still remember the first family we sent to the ROM; twin girls went with their mother and grandmother. Not only was this the first museum trip for all three generations, it was the little girls' first time on the TTC.

At Kids Up Front we are constantly seeing first-hand the positive impact that even a single visit to the ROM has on kids. I have heard more than once how our participants had felt that places like the ROM or the AGO were for the wealthy and privileged. But when "our" children visit the Museum for the first time they feel included and part of a much larger community. I remember one parent telling us that she had never seen her son have fun learning until, thanks to Kids Up Front, she discovered the ROM.

Kids Up Front has also benefitted from the ROM's admission policy for persons with disabilities, which allows children who need a support person to bring that person with them for free. Kids Up Front works with many organizations that serve children with limited mobility, sight, or hearing. More than any of our other partners, the ROM is able to welcome all children.

Now, each month Kids Up Front is able to send 200 children and youth (and their families and caregivers) to the Museum (and an additional 300 in December 2012!). Also thanks to the generous support of the ROM, we have been able to send more than 50 kids to one-week ROM camps over the past four years.

As a fitting reminder of just how important this work is, I will end with a quote from the director of one of our agency partners: "Without your ongoing support our youth would be missing out. Thank you for helping them to feel normal, privileged and happy."

I couldn't say it any better. o

LINDSAY OUGHTRED is executive director of the Toronto Kids Up Front Foundation. To learn more visit kidsupfronttoronto.com.

Photo: Joanie Hazel.

In the ROM of your Hand

With the first of our series of Museum tours for your smart phone, we are joining the virtual revolution

BY SHEEZA SARFRAZ

This spring, the ROM will be launching the first in a series of virtual tours, designed to suit the needs of our tech-savvy visitors. As the Museum goes mobile, we invite you to get up close and personal with our collections even while you lounge in your pyjamas at home.

Ideal for smart phones and tablets, the virtual tour is also designed to enhance actual trips to the Museum. The ROM Family tour, slated for launch in April 2013, is being designed for families with young adults or children in tow. With behind-the-scenes videos and photographs to complement each object, the tour gives people a chance to go beyond what they see in the glass cases.

Ideal for smart phones and tablets, the virtual tour is designed to enhance your trips to the Museum

Did you know that the ROM was the first museum to correctly display the extinct Giant Sloth on all fours, and that, even today, very few museums around the world display it that way? Or that the coral reef is not really a plant but an ever-growing colony of tiny creatures? Surprising and fun information bites accompany each artifact, making sure you get the most out of your visit.

Through our virtual tours, the ROM will be open to the public in an entirely new way, 24 hours a day and available on the go. We look forward to your visiting our website and accessing our collections after hours. Visit **rom.on.ca/tours** for more information. o

SHEEZA SARFRAZ, a writer/researcher at the Royal Ontario Museum Press, is an editor of *ROM* magazine.

Illustration: Izhar Cohen.

A Face only a Geek Could Love

Free to wander and discover the ROM one summer long ago, a young philosopher found his favourite object

BY MARK KINGWELL

In the summer of 1977—the summer Elvis died—I was 14 years old, too young to get a job but too old to do nothing for two months in the dry Winnipeg heat. So my parents packed me off to my aunt and uncle's place in Mississauga. They had a pool in their backyard and apparently infinite patience for my nerdly ways. Pool? I would swim in the pool, yes, but what I really wanted to do was visit the Royal Ontario Museum.

My uncle drove me downtown in his two-tone Chevy Monte Carlo and dropped me at the old Queen's Park/Avenue Road entrance. Along the curb there were yellow buses, and a roasted-chestnut vendor cart, with its bright toys and pennants, standing post by the steps.

Inside, the gold tesserae of the foyer's mosaic made it feel like the entrance to Aladdin's cave.

It was my first time alone in the Museum and I was free to wander wherever my eyes and interests took me. World of wonders! There is nothing to beat this kind of free-wandering appreciation of a magnificent collection, in which you can pretend, for a few hours, that all this is yours. And I was about to meet my favourite piece of all.

Even if I had not been obsessed already with underworld entities as part of my back-home identity as a Dungeons & Dragons weirdo, the arresting earthenware figure of Yanluo Wang, King of Hell, would have brought me up short. It is big, for one thing, just a few inches short of three feet tall. The colours of the glazing are of undiminished vividness even after almost 500 years. (The figure is dated to 1523.) The muscular arms and pendant belly are pale but alive with malicious vitality, and the russet of his lower cloak matches beautifully with that eye-filling deep green, marking both his swirling undergarment and the sweat that pours down his face and chest. *Green sweat*!

The body is caught in a moment of terrific poised energy, creating a powerful diagonal composition. The fists are bunched over the right leg, which is raised away from the pointed left, as if Yanluo is about to explode off his seat and destroy with a single blow everything that lies before him. Then there is the face, the most accomplished realization of wrath that I have seen anywhere. The eyes bug out, their baleful view directed left, and the fanged grimace distorts Yanluo's features into a Medusan mask complete with hair-raising coiffure. He is not happy.

In the Buddhist and Daoist versions of hell, there are multiple layers or dimensions, each ruled by a different general. Their ultimate overlord is called Yama, or in Chinese Yanluo Wang, who was conceived as a reincarnation of a king of the ancient city of Vaishali in India. Yanluo was not just the ruler of hell, he was also the judge of those who found themselves there. It may seem unlikely, looking at that mug, but Yanluo could offer forgiveness as well as torture.

The Yanluo visage is the stuff of proverb; the Japanese version of Yanluo, known as Yemma or Enma, gives rise to the expression "Enma-face" (*Enma-gao*), a friendly warning that one's features could stand a little relaxing. And children are told that a lying tongue will be torn out by Lord Yemma. Even better, to my mind, is the fact that the figure of King Yemma appears in the awesomely successful *Dragonball* manga and anime franchises, now red-faced and fulsomely bearded, dressed in a dark business suit and sporting a sort of Viking-style horned helmet. He still judges who suffers and who doesn't.

I recall how much I coveted this Ming Dynasty masterpiece when I first saw it. I suppose it has something to do with those little lead versions of Tolkien characters that I was painstakingly painting in my suburban basement back in 1977, or the plastic Great War biplanes and top-fuel dragsters that I glued together and festooned with decals. Even today my university office, in addition to housing serious books and art, is scattered with a toy box worth of bobble-heads, finger puppets, inflatables, and architectural miniatures.

There was no way to carry off Yanluo that day. Too heavy, for one thing. But I did the best I could, under the circumstances. As I was leaving to meet my uncle, I saw a rack of postcards in the Museum's gift shop. A detail of Yanluo's raging face was there for sale. I have to believe it was a very popular item. After all, who could resist those bulging eyes and the streaks of green sweat? I bought one card to keep as a souvenir and another to send to my brother at home in Winnipeg.

In those days I regarded myself, without much corroborating evidence, as a master of the witty postcard. "Dear Steve," I began, addressing my older brother, stuck in a factory job back home. "Imagine my surprise when I visited the museum today and saw this portrait of you!" ○

Photo: Claire McNamee.

MARK KINGWELL is a professor of philosophy at the University of Toronto.

I was 14 and it was my first time alone in the Museum . . . I was free to wander wherever my eyes and interests took me. World of wonders!

Yama, King of Hell. ROM 923.6.3.

A Passion for Museums

Rae Ostman brings new ways of seeing ancient cultures to the ROM

BY SHEEZA SARFRAZ

Rae Ostman
MANAGING DIRECTOR
Centre for Ancient Cultures

Curriculum Vitae

2009 to 2012
Director of National Collaborations
Sciencenter, Ithaca, New York

2009 to 2012
Member, Leadership Team
Nanoscale Informal Science Education Network (NISE Net)

2005 to 2009
Director of Education
Sciencenter, Ithaca, New York

2001 to 2005
Project Manager and Exhibits Manager
Exploratorium, San Francisco

Education

2002
New York University
Doctor of Philosophy, Anthropological Archaeology

1990 to 1994
Cornell University
Bachelor of Arts, Cultural Analysis of Arts

For Rae Ostman, the first managing director of the ROM's new Centre of Discovery for Ancient Cultures, exploring various cultures has been a part of life from a very early age. Growing up in Ithaca, New York, her family travelled often and occasionally lived in other countries. "We used to have a system when we travelled, where everyone would get a turn planning a day," says Ostman now. "Nobody in the family would ever choose a museum because they knew that's where we'd be going on my day." Art and world cultures museums were always a favourite.

Ostman still maintains her excitement for museums and the sense of personal discovery they inspire. "It's cool when you feel like you've discovered something that's meaningful to you, even though thousands of people come through the doors," she explains. Her lifelong bond to learning from past civilizations propelled Ostman through her university career. Ultimately she pursued her PhD in Anthropological Archaeology at New York University, getting her hands dirty doing fieldwork in Tuscany, Italy.

Her work experience since then has been largely focused on creating innovative museum experiences, including exhibitions at San Francisco's dynamic Exploratorium and public programs at the Sciencenter in Ithaca. In her role on the leadership team of the Nanoscale Informal Science Education Network (NISE Net) project, she introduced "NanoDays" to hundreds of museums and scientific institutions across America, promoting public awareness and understanding of this cutting-edge field of research through hands-on experiences.

Ostman will bring this experience to bear as she launches one of the ROM's new Centres of Discovery. Her goal is to strengthen the public's connection with the Museum by highlighting ongoing research and the lessons we can learn about contemporary society. "The Centre will be a community within the Museum," says Ostman. "We'll foster connections to the Museum's research and collections, providing rich and surprising experiences for people of all ages and connecting people who are interested in archaeology to each other."

Making the ancient current may seem a contradiction, but for Ostman it is a passion. "The Centre will share with visitors how our understanding of continuity and change in ancient cultures can help us make sense of the change we see around us today." o

---

SHEEZA SARFRAZ, a writer/researcher at the Royal Ontario Museum Press, is an editor of *ROM* magazine.

This painted plaster Roman mummy cover reflects a growing attention paid to realistic representations of subjects, c. 100–200 CE.

Mummy mask, ROM 958X184.15.

Where in the World Are They?

Who is where...and why...among our international curatorial team

U.S.

Kim Tait
CURATOR
Mineralogy

On August 5, 2012, an eruption of cheers could be heard throughout the planetary scientific community—a new rover carrying the biggest, most advanced suite of instruments for scientific studies ever sent to the Martian surface had landed successfully. Since then, the rover Curiosity has been sending back extraordinary data. Back here on Earth, Kim Tait and a team at UCLA, working with Martian meteorite samples from the ROM collection, were able to obtain some of the most accurate ages for Martian rocks to date, bringing a radical new understanding of Martian geological history to light. Tait used a secondary-ion mass spectrometer, which can extract isotopic data from microscopic minerals in the Martian samples.

CANADA

Arni Brownstone
ASSISTANT CURATOR
Anthropology

The Lienzo of Tlapiltepec is a major picture-writing manuscript of large size (3.97 x 1.70 metres) and elaborate composition, painted on cotton cloth by Mixtec-Chocho Indians in southern Mexico during the 16th century. In January, the Lienzo and Arni Brownstone travelled to Ottawa where the Canadian Conservation Institute performed an analysis of the composition of its pigments. The results are to be included in an upcoming publication about the Lienzo, co-published by ROM Press and the University of Oklahoma Press, scheduled for release in the summer of 2014.

GREECE

Paul Denis
ASSISTANT CURATOR
Greek and Roman

Beginning with his studies at university and throughout his career at the ROM, Paul Denis has always been attracted to ancient Greek marble sculpture carved during the Archaic and Classical periods (700–323 BCE). So when the rare opportunity arose to acquire an archaic Greek marble sculpture, Denis was able to acquire the work of art for the ROM thanks to the generosity of the Louise Hawley Stone Charitable Trust.

The beautifully carved sculpture represents a young girl known as a kore. So far, Denis's research suggests that her simple tunic and fluent form suggest that she was sculpted in east Greece (west coast of Turkey) around 500 to 490 BCE, with further studies being done to explain her original function.

CHINA

Sarah Fee
ASSOCIATE CURATOR
Eastern Hemisphere Textiles & Fashions

Curators Chen Shen, Wen-chien Chen, and Sarah Fee received a wonderful Christmas present: they spent the week of December 23 to 28 in Beijing's Forbidden City, studying artworks in the massive collection. The Forbidden City, made up of 90 complexes and over 990 buildings, was the palace and home of China's emperors from the 15th century until 1925. It is now a UNESCO heritage site open to the public and home to the Palace Museum, located in several buildings on the grounds. For five days, Chen, Wen-chien and Fee surveyed ceramics, metalwork, paintings, textiles, and other Imperial treasures. Deepening their research into the arts of China, they were also laying the groundwork for potential future exhibitions at the ROM.

CHINA

Chen Shen
SENIOR CURATOR
East Asian Archaeology

Since 2009, Chen Shen has been travelling back and forth between Toronto and an excavation site located in the outskirts of south-western Beijing. Chen is collaborating with scientists from the Chinese Academy of Sciences at the Zhoukoudian Peking Man site, 50 kilometres from southwest Beijing. The re-excavation at the site, from which a cluster of Homo erectus fossil remains have been recovered since 1926, reveals new evidence related to early Asian hominids who lived in northern China between 700,000 to 300,000 years ago; the studies reveal, most significantly, their use and control of fire.

Photos: Kim Tait by Desmond Moser, Sarah Fee by George Whiteside Photography.

Digging Deeper

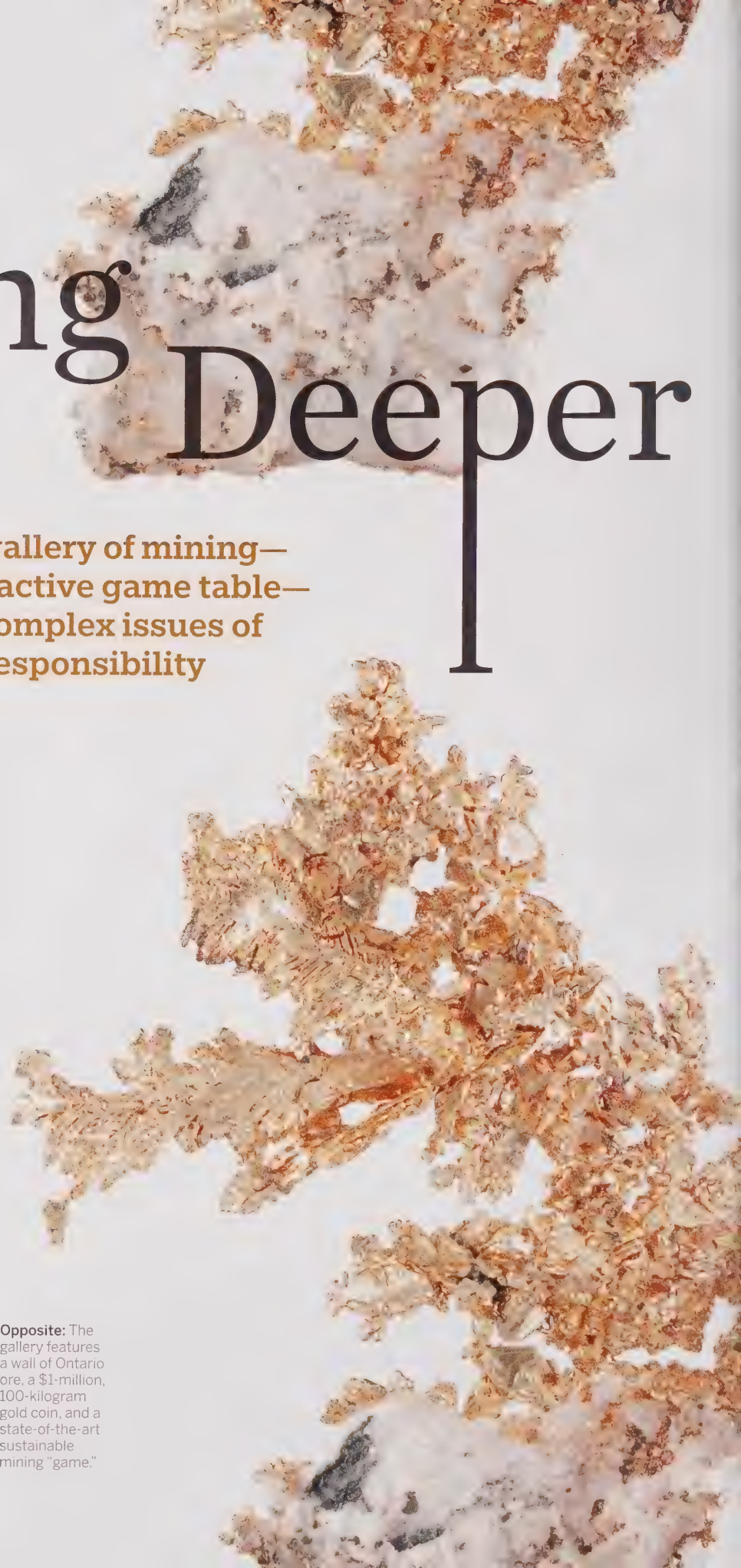
The ROM's dynamic new gallery of mining—and its cutting-edge, interactive game table—brings to the surface the complex issues of sustainability and social responsibility

BY COURTNEY MURFIN

In an age where information leaps from our pockets in living colour, museums still have a unique edge in offering the "real thing." Actual physical objects presented in rich contexts invariably inspire memorable experiences ranging from the aesthetic to the educational. But when faced with a great story and relatively few objects, what direction does a museum take? For the team behind the ROM's new Barrick Gold Corporation Gallery, a handful of objects, a sometimes controversial topic, and a changing audience presented an exciting opportunity to do something new.

Situated prominently within the Teck Suite of Galleries: Earth's Treasures, and surrounded by awe-inspiring rocks, gems, minerals, and meteorites from around the globe, the new gallery tackles the complex story of modern mining: how ores and minerals are found, extracted, and processed, and the profound challenges to be environmentally and socially sustainable. It confronts our way of life, calling for responsible consumerism while highlighting the need for mining companies to be responsible in their treatment of the environment and affected communities.

The Barrick Gallery joins the ROM's natural history galleries on the second floor. Standing



Opposite: The gallery features a wall of Ontario ore, a $1-million, 100-kilogram gold coin, and a state-of-the-art sustainable mining "game."

Rendering: © ROM 2013.

across from Life in Crisis: Schad Gallery of Biodiversity, which emphasizes threats to biodiversity, a gallery about mining seems to be almost a provocation. What better way to begin a conversation about responsible mining?

"Our goal is to provide reliable and balanced information. The ROM is a host for discussions, even controversial ones, and our galleries are just the start of the conversation," says Kim Tait, lead curator of mineralogy.

The ROM's galleries are full of authentic and enlightening artifacts, which tell stories and communicate information. But this story can't be told with objects; the "real thing" in this gallery is the expertise, the research, and the science from within the Museum walls. "It's about people encountering ideas, which is one of the prime reasons it's not filled with objects. That would have been easier to do," says Dave Hollands, head of ROM Creative.

The ROM's audience, similar to those around the world, is dominated by a new generation of visitors who look for ease, choice, and independence when accessing information. In the mining gallery, exciting multimedia installations invite visitors to participate and explore, to experience the world of mining through a variety of viewpoints. An evocative video trailer introduces visitors to the gallery's themes, with powerful imagery—from the muscular technology of modern mining operations to the landscapes they affect and the people involved every step of the way.

The objects the gallery does include tell astounding stories of their own. A 5-metre-wide wall of solid ore from a mine in northern Ontario contains on its surface, visible only under magnification, a tiny piece of gold representing the amount that would be obtained from a mass of rock this size. Nearby is the celebrated $1-million gold coin, weighing in at 100 kilograms. One of five created by the Royal Canadian Mint in 2007, it was certified by Guinness World Records as the world's largest gold coin.

"Our goal is to provide reliable and balanced information," says Kim Tait, lead curator, "and be the host for discussions, even controversial ones... Our galleries will be the start of the conversation"

Mining touches virtually everything in our lives. As visitors explore the gallery's immense interactive screen, a web of products, minerals, and mine sites reveals the environmental and social consequences of producing items essential to our way of

Reflecting ever-changing reality was key: the gallery's game has at its heart a content-management system that allows it to respond to changes in markets, consumer behaviours and world events

The gallery's showpiece is an interactive gaming table where birds fly, water flows, people live, and mines operate, all controlled by players around the table

life. The experience begins with everyday products—from computers to tomatoes—that link each of us to the materials in the ground and the complexities and costs of their extraction. Your cellphone, for instance, wouldn't exist without coltan, which, in the Democratic Republic of the Congo, is mined at great cost to its citizens and environment. It not only makes you think twice about buying a new phone, but also reinforces the value of recycling your old one.

"We offer visitors free exploration from which they can glean a strong, simple point. You pick the experience that's meaningful to you—'I want to look at products' or 'I'm interested in what's going on in this part of the world,' says Hollands. "It's just more memorable that way."

There's more to the story than demand and consumption. "Mining responsibly means balancing the needs of the environment, local communities, governments, and the economy, which are just some factors in the extraction of ores and minerals," explains Tait. Nowhere is this demonstrated more clearly than in the gallery's showpiece installation—a 2.4-metre-long multi-touch interactive gaming table. Covering the surface is a dynamic digital terrain where birds fly, water flows, people live, and mines operate. It feels alive. And it's all controlled by real people around the table. Up to eight players, with others able to participate on their own mobile devices, take on different roles and respond to situations to maintain a balance between productivity and responsibility.

Will the local community stop the mine from being built? How will the mine manager control pollution from the mine? What will you do when your car's lease is up? A storm hits! The government lowers the mine's taxes! The workers strike! And as each happens, the virtual environment responds. Based on real stories from newspapers and industry practices around the world, the game has at its heart a sophisticated content-management system that allows the ROM to update the content in real time, responding to changes in market, consumer products, or world news and events.

Teamwork, both in the game and around the table, is encouraged to keep the mines running. And the additional mobile app means the experience isn't limited to the Museum. "It expands the community being built around the table," says Hollands. The outcome of the game results from the choices players make.

"By allowing the visitor to explore challenges from the mining industry," says Tait, "we show that we all need to work together to extract ores safely and sustainably." With the guidance of an advisory council, made up of representatives broadly related to the mining industry—mining companies, NGOs, government, Aboriginal affairs groups, academia—the ROM was dedicated to making content accurate, balanced, and applicable.

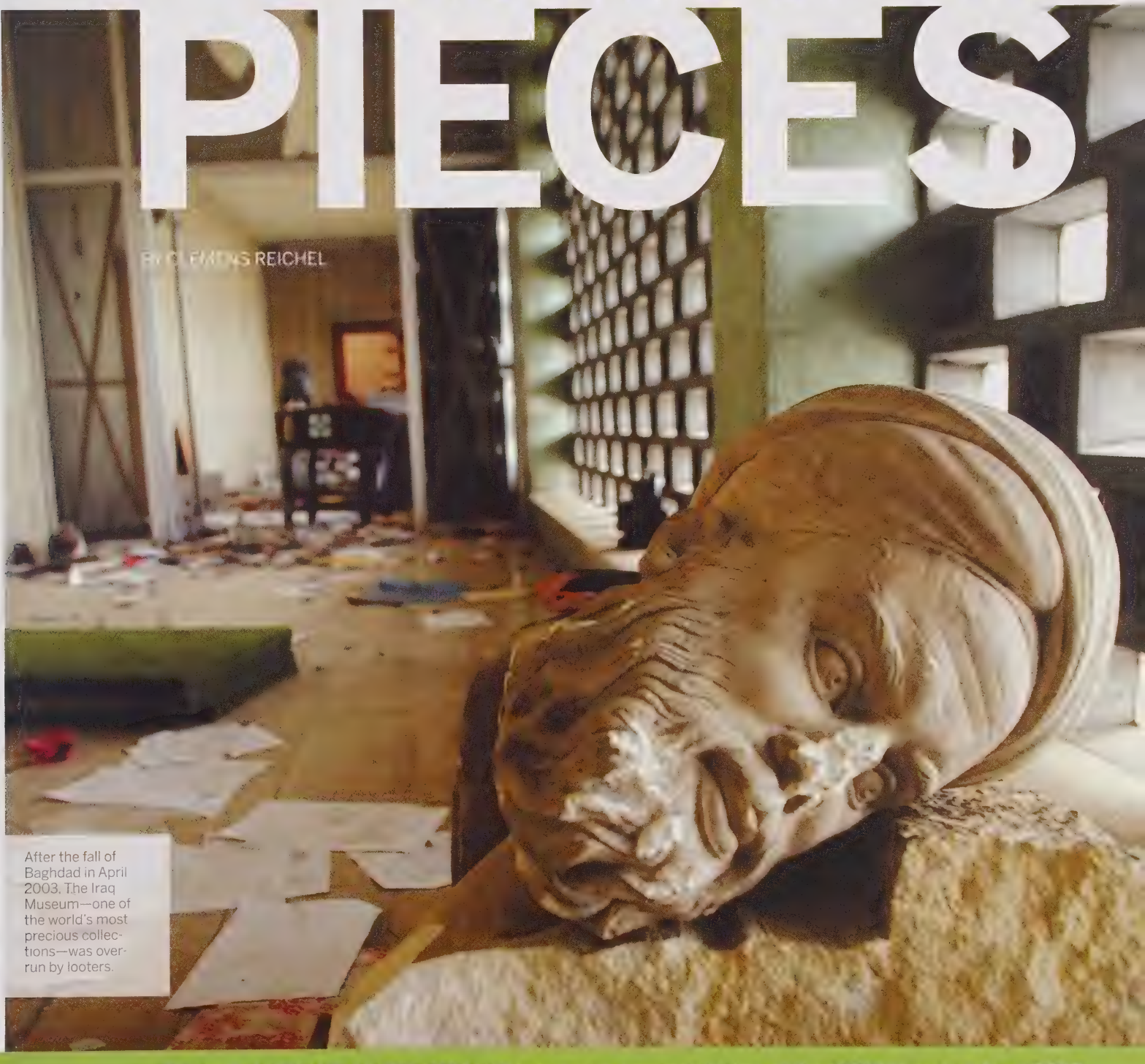
In a time of unlimited access to information, it is important that ROM visitors can rely on the authority and expertise of a trusted source. The Barrick Gold Corporation Gallery attempts to unravel the complexities of modern mining, so that visitors and scientists can connect through shared information, and solutions can be built around dialogue and interest, based in the real world. o

Illustration: © ROM 2013.

Ten years ago, looters ran wild through the Iraq National Museum. Then they moved on to ransack the country's unrivalled array of archaeological digs, flooding global antiquities markets with irreplaceable ancient artifacts. Now—finally—experts from Iraq and around the world are returning to the scene of the crime

PICKING UP THE PIECES

BY C. EMMS REICHEL



After the fall of Baghdad in April 2003, the Iraq Museum—one of the world's most precious collections—was overrun by looters.

Explore **ANCIENT MESOPOTAMIA** in a major new exhibition at the ROM, opening June 2013

The pictures of the Iraqi national museum running on the evening news on April 12, 2003, told a shocking, heartbreaking story. It was a chronicle of empty, ransacked exhibition halls, smashed glass display cases strewn everywhere. In the midst of it, a woman dressed in black, crying, repeatedly saying in Arabic, "It's all gone... they have taken *everything*!"

To someone like me, working in the field of Mesopotamian archaeology, these images were a worst nightmare come true. One of the world's most precious collections had been looted, after the fall of Baghdad to U.S. and coalition forces. And, from initial eyewitness reports, we were to believe that everything had been stolen. The world's most important Mesopotamian archaeological collection—170,000 artifacts—gone! My head was spinning as I tried to take in the full implication of this tragedy. What did this mean? And how could it happen? *Everything*?

For many decades, Iraq had been the focus for archaeologists from all over the world. Home to the ancient cultures of Sumer, Assyria, and Babylonia, it had a well-funded antiquities service. By the mid-1960s a new national museum, with state-of-the-art installations and conservation equipment, was built in Baghdad. The problems began in the 1980s during the brutal Iran-Iraq war, which made archaeological work difficult and dangerous. The next decade was even worse. Following Iraq's invasion of Kuwait in August 1990, the Gulf War of 1991 meant the end of all foreign archaeological expeditions while an economic embargo forced the Department of Antiquities to shed employees.

While some looting occurred in Iraq's provincial museums after the Gulf War, the consequences for Iraq's archaeological sites were much more severe. Since the Second World War, Iraq had boasted a well-maintained system of inspectors and site guards to prevent significant looting of archaeological sites. As a result, unlike many neighbouring countries, Iraq had been able to prevent any large-scale illegal trade of its antiquities. With the war and the embargo, this situation changed dramatically. Economic hardship created an incentive for an increasingly desperate rural populace to loot archaeological sites. Without inspectors and guards, there was little that the antiquities services could do.

Aware of the stakes and with only limited resources, Iraq's archaeologists set out to fight the looters in the only way left

Photo: Getty Images.

to them—they would carry out as many controlled excavations as quickly as they could. These operations, carried out with minimal logistical support from central authorities, were dangerous. Often, archaeologists found themselves outgunned and were literally chased away by looters. One of them, Dr. Donny George Youkhanna (known to most everyone as "Donny George"), recounted to *Science* magazine's Andrew Lawler how one day "a large force of some 50 to 70 looters appeared, and there was a full day of fighting between our government forces and the looters.... We had a dozen of our people injured and killed." Following a physical attack on him (which required 14 stitches to his head), Donny George resorted to carrying a Kalashnikov rifle during his trips to southern Iraq.

Iraq's political and economic woes eased somewhat after 2000. In early 2001, a multinational group of archaeologists visited Iraq to assess a possible resumption of archaeological work. Their efforts, however, were short-lived; with the World Trade Center attacks in September 2001, everything was once again at risk. Within the year it became increasingly clear that Iraq was in for another war.

Remembering the danger posed to sites and museums during the 1991 Gulf War, archaeologists approached the U.S. Department of Defense. One of them, Dr. McGuire Gibson from the University of Chicago's Oriental Institute (my own teacher), provided a list with maps of 4,000 sites of archaeological and cultural significance. In a summary published in *Science* magazine in March 2003, right at the outset of the war, Gibson warned of the risk to archaeological sites in prospective combat zones and concluded that "the greatest concern of archaeologists, art historians, and historians around the world is for the Iraq national museum in Baghdad and the museum in Mosul, as well as our colleagues on their staffs, who will try to protect the collections."

Only three weeks later, following the fall of Baghdad on April 9, looters descended on the museum. In a power vacuum left by the crumbled Iraqi state and with no provisions set in place by invading forces, intruders pillaged at will for two days. News about the massive theft broke on April 11, when French and Australian journalists entered the building. The next day, the first devastating images became visible to a world audience.

> Iraqi archaeologists fought the looters in the only way left to them —quickly carrying out as many excavations as they could

Donny George, by then director of The Iraq Museum, became the televised face of Iraq's archaeological community as it tried to deal with the aftermath of the looting. Around the world, projects were launched at various universities and museums, aimed at recovering stolen artifacts. At the University of Chicago's Oriental Institute, where I worked at the time as a research associate, we launched an extensive web-based database of artifacts from the museum and we created IraqCrisis, a list server that provided any information

Opposite: A nightmare come true: In a power vacuum left by the crumbled Iraqi state and with no provisions set in place by invading forces, intruders pillaged The Iraq Museum at will for two days

Left: Members of the Iraqi antiquities police detain a family caught digging illegally in a Sumerian archaeological site at Arido, May 2008. Under-resourced and embattled, the authorities have been unable to stem the destruction

Eventually the missing Warka Vase, an iconic piece from ancient Iraq, was returned anonymously. Although in pieces (along ancient breaks) it has been possible to fully restore it.

we were able to gather on the status of Iraq's cultural heritage.

By early May 2003, the story of the museum's looting was thrown into doubt. Some news reports now suggested that only 33, then 39 objects were actually missing. Others, including a BBC production, suggested greater losses but were now implicating museum officials in the thefts. (The accusations proved groundless.) Archaeologists who previously had expressed their outrage about the museum's looting now attracted ridicule and scorn for propagating what now looked like a fabricated story.

As the old saying goes, the first casualty of war is truth. In the case of The Iraq Museum, a parade of semi-truths reported prematurely created a misleading picture. The Iraq Museum was known to contain about 170,000 registered objects. When the photos of the looted, emptied museum galleries went around the world, the conclusion drawn by some was that all 170,000 artifacts must have been stolen. Logistically, it was clear from the beginning that this was impossible. Moving that many artifacts—some of them weighing several tons—within 48 hours would not have been possible even with an army of packers and conservators, let alone with a marauding group of disorganized looters. The figure of 39 missing artifacts however was equally misleading in that it was a list of key losses from the gallery exhibit alone. As everyone who has ever experienced the workings of a museum knows, however, the materials on exhibit represent only the tiniest fraction of its holdings. The question as to what had happened to The Iraq Museum's storage areas had yet to be answered.

International experts started to show up in Baghdad soon after the looting. By late April Dr. John Curtis, then head of the British Museum's West Asia section, had undertaken a first site visit, soon to be followed by a group of curators and conservators to further assess the extent of the damage. By mid-May a group of leading American archaeologists (including the University of Chicago's Gibson) went to Iraq under the auspices of UNESCO and the National Geographic Society to inspect the museum and to visit archaeological sites that were presumed to either have been damaged by warfare or by subsequent looting. It was around this time that Matthew Bogdanos, a district attorney from Manhattan and a colonel in the U.S. Marine Corps Reserves, was assigned to create a task force in Baghdad to tally up the losses caused by the museum looting.

The best sources of information, of course, were those Iraqi colleagues who had been at the museum before and during the museum looting. As Donny George recalled during a lecture at the ROM in September of that year (his first visit to North America after the Iraq War), they had tried to prepare for the impending war; any artifacts that were deemed movable were taken off display; the most valuable ones—such as the treasures from the Royal Cemetery of Ur and the gold treasures from Nimrud—were moved to a vault below the National Bank in Baghdad and so were spared.

The storage rooms at The Iraq Museum itself fared less well. Without electricity, amid the darkness and chaos of the ransacked basement, it took weeks to determine what was missing. By mid-June, it was clear that the looters had taken even more than had been feared. Among the losses was a large part of the museum's world-renowned cylinder seal collection—some 5,000 pieces. In August 2003, the Marine investigators presented the first detailed tallies of the losses, though over the subsequent three years the figures rose and fell. Today, the consensus is that some 15,000 artifacts were stolen from the museum.

Some looted objects were returned, though exact tallies are as impossible to come by as the motivations for their return

Almost immediately after the looting some objects were returned. Exact figures and tallies are as impossible to come by as the motivations behind those returns. The fact that The Iraq Museum and its collection were a symbol of national pride that was above and beyond politics probably played no small part in this. In June 2003 the Warka Vase, one of the most iconic pieces from ancient Iraq (pictured in almost every book about ancient Mesopotamia) was returned anonymously. Although in pieces (along previous ancient breaks) it proved possible to fully restore it. The most iconic piece from ancient Sumer, the Warka Head, was retrieved in October 2003. There were, however, irretrievable losses. The Iraq

Photos: Left, © Hirmer Verlag. Right, courtesy McGuire Gibson

Museum's famous Gold Lyre from Ur (a companion piece to the Great Lyre of Ur in the Mesopotamia exhibit) had been stripped of its gold cover during the looting. While it may be possible to restore its appearance, it obviously will never be the same.

The Gold Lyre from Ur (shown here, before and after) was stripped of its gold cover during the looting. It will never be the same.

Unlike two decades ago, antiquities markets today are well "stocked" with stolen Mesopotamian artifacts—mostly from clandestine excavations

The looting of The Iraq Museum was devastating... and only a hint of much worse. Flyovers of archaeological sites in late 2003 by coalition helicopters showed that major archaeological sites literally had been "honeycombed" for artifacts: holes had been dug every few metres then connected by tunnels to ensure maximum artifact "extraction." The loss of data as well is enormous: architectural remains are destroyed and artifacts are collected with no record of their context. Archaeological samples of tremendous scientific value (pottery, tools, animal bones, plant remains, or charcoal) are tossed aside since they have no "market value." As a result, the archaeological history of Sumer, mostly explored at the beginning of the 20th century with inadequate techniques, will never be fully known.

By 2006, the security situation had so deteriorated that many archaeologists were forced to flee the country, including Donny George himself who left that summer for the United States, settling in as a visiting professor at Stony Brook University on Long Island, New York.

Not surprisingly, unlike two decades ago, today's antiquities market is well "stocked" with Mesopotamian artifacts—mostly cylinder seals and cuneiform texts written in Sumerian or Akkadian (i.e. Babylonian or Assyrian language). The fact that very few of them can be traced back to The Iraq Museum confirms that most of them originate from clandestine excavations. These items present law enforcement officials and archaeologists with considerable challenges: the origin of an illegally excavated artifact is difficult if not impossible to prove, and the burden of proof remains with the prosecution. While an artifact stolen from a museum usually was registered in some form during accession (which can be used as evidence in court), no such documentation exists for an illegally excavated artifact.

Still, a few bright spots did emerge during this period of general gloom and despair. One was the interest and dedication shown by numerous U.S. soldiers who contacted us, sent us photographs of seized antiquities, and even offered to check up on nearby archaeological sites—occasionally at great risk to them and not always with the approval of their superiors. The unusual alliance between scholars and common soldier—with these young men and women serving as our eyes and ears in the field–will remain one of the most remarkable memories of those days.

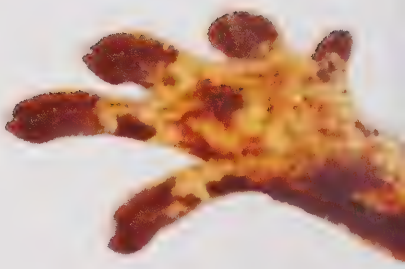
More recently, things have begun to improve. The gradual rebuilding of Iraq's antiquities service has curbed site lootings. The

Photo: Damaged lyre by John M. Russell.

Iraq Museum had been repaired and its galleries refitted with the help of international expertise, though it has yet to be reopened permanently. Some 8,000 artifacts have been retrieved. Large groups of young Iraqi archaeologists have been and are being trained in Iraqi and international training programs. Archaeologists gradually have been returning to Iraq with German, French, British, Italian, and North American universities and museums making plans to return. Though the losses incurred through museum and site lootings are irreplaceable, after more than 20 years, archaeological work in Iraq might finally return to normal.

Fate, unfortunately, did not permit the one person to return who more than anyone was waiting for this chance: on March 11, 2011, Donny George died while visiting Toronto—a city to which he had developed a strong connection since his 2003 visit. The challenge remains for the rest of us to continue the work that for many years he had carried on with so much dedication. ○

The blockbuster Mesopotamia opens at the ROM in June 2013, bringing to Toronto an extensive collection of the British Museum's extraordinary artifacts from Iraq's ancient cultures. This year also marks the 10th anniversary of the looting of Iraq's national museum at the beginning of the 2003 Iraq War. Staff members of the Royal Ontario Museum are currently producing a special retrospective of the realities and devastation of years of nationwide looting and the consequences for Iraq's precious archaeological and cultural heritage.



Sticky FINGERS

Ever notice how geckos can run along any surface, even upside down? Scientists around the world have, and now the race is on to make "gecko tape" commercially available. Here's how one ROM conservator got stuck on the idea and created her own

BY JULIA FENN

Photo: Kellar Autumn.

How do they do it? And might we do it too?

Geckos are wondrous creatures, as anyone who has seen one darting around a hotel room or garden will agree. They run effortlessly up vertical walls and upside down across ceilings before pausing mid-step, to hang immobile, apparently exempt from the laws of physics. They adapt instantly to almost any surface, from dusty plaster to polished glass. As curious scientists have discovered, geckos do all this without the aid of suction pads, hooks or sticky secretions used by other gravity-defying members of the animal kingdom.

Throughout history, the wonders of the natural world have inspired people to try to emulate them. Recently, with the evolution of nano-technology, scientists have gone further trying to adapt Mother Nature's solutions to 21st-century challenges. Indeed a term emerged in the late 1990s to describe it: "biomimicry." Whether it's the ingenious passive ventilation systems found in huge underground termite colonies or the extraordinary thin-film solar collectors on butterfly wings, there is much in Nature from which we—humans—can learn and adapt.

Climbing geckos have an adhesive system that is instantly effective on a variety of surfaces even in a vacuum. It is reversible, reusable, resilient, self-cleaning, non-matting, and non-self-adhesive. Any successful adaptation would have enormous commercial potential, particularly in space and military programs, robotics (imagine a robot scaling a dangerous height or entering a toxic environment), medicine (non-allergenic, repositionable wound closures), and sports. For researchers around the world, the question became: how do they do it? And how can we?

Initial study revealed that the underside of gecko toes are covered with layered ridges of fine bristles called *setae*, which subdivide into literally millions of smaller branches all ending in flattened tips called *spatulae*. This intricate layered arrangement conforms to virtually any type of surface at such a micro level that the spatulae can access intermolecular forces of attraction called van der Waals forces. Effectively, the gecko slides its toes, until enough spatulae are engaged with the surface to support the gecko's weight. It is so efficient that a well-nourished, 10-ounce (300-gram) male gecko can support its entire weight from a single toe pad.

Of course, that is only part of the power of gecko adhesion. Equally amazing is its ability to instantaneously release its hold. Geckos do this by rapidly curling their toes upwards until the angle is greater than 30 degrees, releasing the bond. Because comparatively few *setae* are being released at any

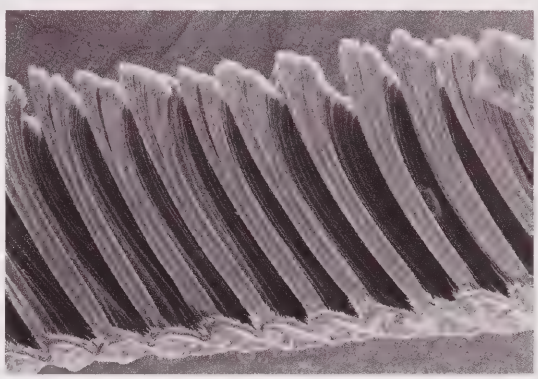
one fraction of a second, there is virtually no resistance. This system of sliding to stick and peeling to release, permits a gecko to detach and reattach its feet up to 20 times per second while running on vertical or inverted surfaces at a rate of about 1 metre per second. When on horizontal surfaces that do not require adhesion, geckos run with their toes held in a way that the pads do not make contact with the ground.

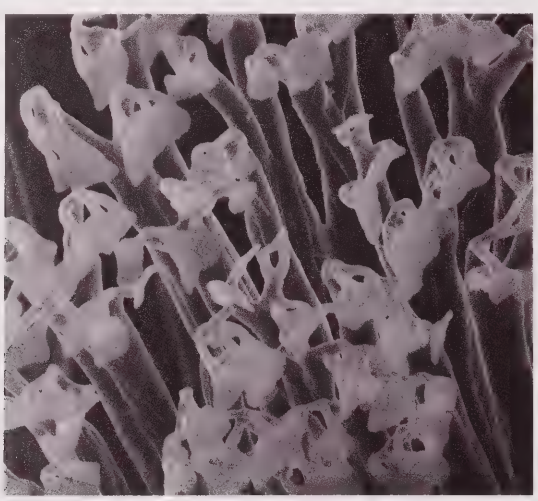
Another remarkable feature of geckos' adhesion is that their hairy little pads do not become clogged with dirt despite the fact geckos do not groom or deliberately wash their feet. The prevailing explanation is that only very few spatulae attach to any one particle of dirt so the intermolecular forces attaching that particle to the gecko are weaker than the energy holding the dirt particle to the surface. This self-cleaning not only prevents the gecko's feet from becoming clogged, it minimizes stress and damage to the surface so that the gecko can run across crumbling plaster ceilings without pulling bits off and crashing to the ground. This non-invasive adhesion to fragile surfaces is what would be so very useful for mounting museum exhibitions.

Museum conservation and public exhibition requires adhesion that is non-toxic, non-flammable, simple to apply, non-corrosive, strong enough to hold but gentle enough to do no harm, and easily removable while leaving no harmful residues. Gecko adhesion could be the perfect system for holding a fragile ancient artifact securely without crushing, staining, weakening, or otherwise damaging it. The gecko's purely mechanical adhesive system could radically change museum mounting. Very fragile antiquities or large, heavy tapestries are difficult to support vertically without differential stress causing distortion, collapse, or local crushing from tight clamps. The only safe option for many such pieces is flat or slightly angled display, but that interferes with interpretation and design since it is not how most artifacts were meant to be seen.

Another insidious source of damage in museums is vibration. Caused by HVAC systems, underground subways, street traffic, and the visiting public, this tiny but constant shaking can cause antiquities in display cases to shift, gradually edging forward, eventually toppling over or dropping off the end of the shelf. Others may quiver and jitter, resulting in shedding and spot shattering. Gecko tapes would be a huge improvement over the waxes and putties currently used to stop this movement because it wouldn't harden or stain the artifacts and could be used on vertical as well as horizontal surfaces.

Gecko adhesion also has tremendous potential in conservation and repair work. Most glues and sticky tapes age badly: shrinking, becoming brittle, discolouring, or oozing which weakens the bond, damaging the artifact and making it extremely difficult to remove old glue residues without further damage. Museum conservators spend a great deal of time evaluating which of the many available adhesives will cause the least amount of long-term damage for any given repair and in trying to counteract chemical and physical damage already caused by old mounts and repairs. The prospect of an instantly reversible adhesive system without harmful residues is enough to make any conservator's eyes gleam! ○





Top: Magnified view of a Tokay gecko foot showing rows of setae on the toe pads which enable geckos to attach to virtually any type of surface.

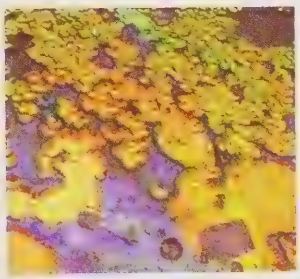
Middle: Layered ridges of stiff setal hairs.

Bottom: Microphotograph showing setal branches, each terminating in a spatulate tip (spatulae).

MAKING IT STICK

For Julia Fenn, the challenge wasn't just understanding gecko adhesion, it was recreating it!

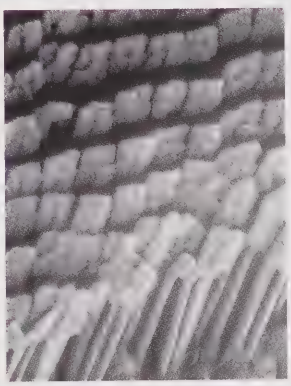
From the ROM website: To connect with the past through the objects that remain, we must preserve them. This is the role of conservation at the ROM. Conservators work collaboratively with curatorial and exhibitions staff to define standards and advise on the safest conditions for the storage and display of objects, including light, temperature, humidity, air quality, and the best adhesives for display.

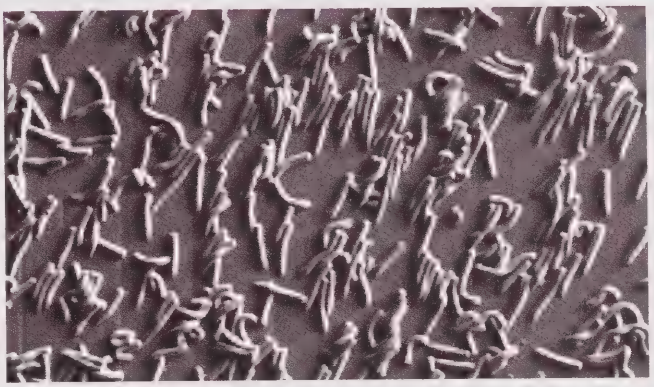


Left: Iridescent patina on Roman glass. Close-up of the iridescence formed by paper thin layers of re-deposited silica.

Right: Fragile flake of detached patina safely lifted by a synthetic gecko surface attached to a glass rod.

Below: Scanning electron microscope photos comparing real gecko setae to synthetic silicone setae.





As a conservator, my work spans both the arts and the sciences, so I need to keep an eye on research in both worlds. It was while I was reading up on nanotechnology that I learned of the possibilities of gecko adhesion for a wide range of specialized tasks. I was utterly entranced. I also learned about the work currently being done internationally using synthetic materials.

According to the early reports, there was such confidence in this research that many felt "gecko tape" would be commercially available by 2010. It still hasn't happened. Tired of waiting and keen to put it to use, I considered how we could simulate gecko adhesion in a ROM conservation laboratory although it was not equipped for vapour deposition or plasma etching and we were without funding. Inspired by the website of the Nanoscale Informal Science Education Network (NISE), a community of researchers and science educators dedicated to fostering public awareness of nanoscale science and technology, I began experimenting with nanomoulding.

Using NISE techniques for demonstrating gecko adhesion in schools, I tested a selection of artifact-friendly silicone casting resins. By stopping off the underside of a polypropylene microfilter with adhesive tape, and pouring silicone rubber onto the upper surface, I was able to make casts of the pores so that when the cured silicone was pulled free of the filter and the tape, its undersurface was covered with tiny silicone nano projections – much like a gecko's foot. With some tweaking and experimentation, I was even able to make double-sided gecko surfaces. In testing, I was able to use them to solve a common conservation problem: lifting and repositioning fragile, detached flakes too delicate to pick up otherwise without damage.

From that auspicious beginning, I am now experimenting with stiffer silicones and finer filters to improve the adhesion. Thus far these look very promising as safe vertical mounts for, among other things, fragile ancient coins. Since obviously a coin cannot be released by peeling back like a gecko toe, I am currently looking at a variety of solutions; the most useful to date consists simply of sliding fine dental floss between the mount and the coin as a way of gently dislodging the fibrils until the coin is safely freed.

I must say, no one was more amazed than me when my simulated gecko surfaces actually functioned. As a scanning electron microscope revealed, "my" silicone columns are widely spaced, coarse, very floppy and with no branching at the tips. Any self-respecting gecko would be appalled. As a conservator, however, I am thrilled. And quite stuck on the idea of gecko adhesion. J.F.

Photos: Microscopic scan of gecko hair by Kellar Autumn. Microscopic silicone gecko surface © SEM. Flake, Julia Fenn.

Toronto Trees Go Mobile

The new Trees for Toronto Web Resource comes to your smart phone and tablet

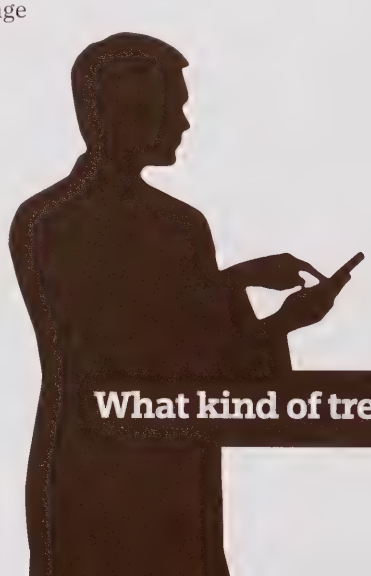
BY DEBORAH METSGER, JENNY BULL AND JOHN BARKER
BOTANY SECTION, DEPT. OF NATURAL HISTORY, ROYAL ONTARIO MUSEUM

How many times have you walked past a city tree, caught a whiff of an interesting smell or a glimpse of an unusual leaf and wondered, "What kind of tree is that?" You might consult a field guide for the answer—but few of us pack one for a walk in the city. Now, thanks to a new initiative of Trees for Toronto, you can look it up on a local website right from your smart phone or tablet.

Trees for Toronto, a joint initiative of the Royal Ontario Museum and the City of Toronto, was initially mandated to plant trees in Queen's Park and develop a tree identification and awareness program. In 2009, two large interpretive signs and 98 tree identification plaques were unveiled in Queen's Park and featured on the ROM website. In 2010 the plaques were used as a template and inspiration for a new Toronto Islands Tree Tours which was mapped on the Canadian Tree Tours (CTT) website. Now, thanks to the generous support of the Toronto Field Naturalists Nature Grants, species fact sheets are being prepared for the 125 species that have plaques. They are being posted as completed and are accessible from both the ROM and CTT websites.

So what are these interactive fact sheets? Individual web pages, comparable to pages in a field guide, show distinguishing features of each tree species—*Tree, Bark, and Twigs*; *Leaves*; *Flowers*; and *Fruit*—which then expand to descriptive text and zoomable images depicting individual characteristics and seasonal change. Once you have identified your species, Fascinating Facts offers tidbits like how a tree got its name, where it originated, what pests attack it or how it is used. If you are so inspired, This Tree in Toronto will tell you whether a tree is appropriate for your front lawn and city programs that may offer it. Finally, *Where Can I See This Tree?* will lead you to city parks that have been mapped.

New species pages will be posted as they are completed and others will grow and change as we complete descriptions and get more images through the seasons. So keep visiting and explore and enjoy Toronto trees. In time, interactive fact sheets will be available for all 200-plus species of trees found in Toronto. ○



For more visit rom.on.ca/trees

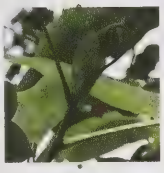
What kind of tree is that? ..... >>>>>>

Tulip-Tree ◆ *Liriodendron tulipifera* L

Leaves are 7 - 12 cm (2 3/4" - 4 3/4") long

Tulip-trees are large, with tall straight trunks that dominate the forest canopy

Leaves have **4 to 6 lobes** and a distinctively notched, rather than pointed, tip.



Leaves emerge from between two large stipules (leafy bracts) that fall off shortly after.

Leaves have an **alternate arrangement** on the branch.

In fall, the leaves turn **yellow**.

FASCINATING FACTS ABOUT TULIP-TREE

Distribution
Tulip-tree is native to the deciduous forest of eastern North America which extends into Canada in southwestern Ontario in the region called the Carolinian zone or Carolinian Canada

Derivation of names
The genus name, Liriodendron, comes from the Greek *leirion*, meaning lily, a reference to the six-parted flowers, and dendron, meaning tree. The common name tulip-tree is also in reference to the flowers which resemble tulips because both have 6 tepals (petals and sepals that are the same shape, size and colour). Tulip-tree is closely related to magnolias.

Official status
Tulip-tree is the state tree of Indiana, Tennessee, and Kentucky

Similar species
Tulip-tree leaves have occasionally been confused with maple leaves because both are lobed.

Human use
The wood of tulip-tree is commercially valuable and is used to make furniture, musical instruments, plywood, and pulp.

Wildlife value
Tulip-tree's flowers provide abundant nectar to bees, while the seeds feed squirrels, birds, rabbits, and deer

TULIP-TREE IN TORONTO

Tulip-tree's place in Toronto's urban forest
Lying at the northen boundary of the Carolinian zone, Toronto is at the northern limit of tulip-tree's natural range and so historically it was sparse in this region. In its natural habitat it grows in deciduous forests in moist, rich soils. With increased interest in native species, tulip-tree has been planted widely and is now more common in cultivated settings

Landscape value and potential for home planting
Tulip-tree is fast growing and intolerant of shade. Due to its large size it is not suitable for growing in small sites. There are several cultivated varieties.

WHERE CAN I SEE TULIP-TREE?

Links to maps at Canadian Tree Tours:
Toronto Island Park
Trinity Bellwoods Park
Queen's Park

FURTHER INFORMATION ABOUT TULIP-TREE

Flora of North America

Canadian Tree Tours:
canadiantreetours.org

Illustration: Shutterstock. Photos: © ROM.

It Is Easy Being Green

Celebrate Spring with 2013's Colour of the Year!

BY CONNIE MACDONALD

ROM MEMBERS RECEIVE A 10% DISCOUNT IN ROM SHOPS

Emerald Green, named Pantone's Colour of the Year for 2013, evokes new beginnings, vitality, and well-being. Verdant shades of green conjure up images of spring weather, lush gardens, and reawakening wildlife.

We invite you to take the opportunity to celebrate spring and enjoy the many hues of green in the art, furniture, apparel, and more at the ROM Museum Store.

Stop by the store this spring or visit us on-line at **store.rom.on.ca** and re-energize with beautiful green. o

---

CONNIE MACDONALD is assistant vice-president of Hospitality & Commercial Services at the ROM.

IN THE FIELD

1 ROM Field Guides, the go-to resource books for nature lovers, created by ROM curators: *Wildflowers of Ontario*, *Birds of Ontario*, *Freshwater Fishes of Ontario*, and *Amphibians and Reptiles of Ontario*. $24.99 to $29.99. ROM Member price $22.49 to $26.99

IN THE GARDEN

2 100-percent silk Ode to Paper Lanterns patterned designer blouse. Sale price $129.97 **3** Chinese ceramic garden stool, China. Sale price $99.97 **4** Set of five ROM reproduction Japanese giclee prints. $125. ROM Member price $112.50

IN THE HOME

5 Handmade glass-tile mosaic Buddha by Pakistan-born designer Amrita Singh. $499.99. ROM Member price $449.99 **6** Agate and 24-karat gold-plated sterling silver cuff bracelet by designer Charlene K. $179.99. ROM Member price $161.99 **7** Embroidered dragon tassel trinket box, China. $14.99. ROM Member price $13.49

All items listed on this page are available at the **ROM Museum Store**

Store Hours: 10 a.m. to 6:30 p.m., except Friday 10 a.m. to 9 p.m. **Kids Store:** Monday to Sunday, 10 a.m. to 5 p.m., except Friday 10 a.m. to 8 p.m. Check out our on-line boutique at **store.rom.on.ca**

The Evolution of Museums

Work has already begun on the ROM's exciting new Gallery of Early Life, opening late 2014

BY SHEEZA SARFRAZ

Left: The new gallery will feature cutting-edge 3D animation, like this image of *Anomalocaris canadensis*

Right: A fossil of *Anomalocaris canadensis* showing eyes, claws, lobes and the posterior fan

In February, the ROM celebrated Charles Darwin's birthday, part of an international commemoration of his profound contribution to our conception of biology and evolution. What better place than a museum to mark such an important milestone in our understanding of the origin of species. It is fitting too for another reason; like nature itself, great museums evolve and change in response to their changing environments. A case in point: work has already begun in preparation for next year's launch of the ROM's new Gallery of Early Life.

Opening late in 2014 as part of the ROM's year-long centennial celebrations, this new permanent gallery will leverage the Museum's rich fossil collections to document the beginning of life, starting nearly four-billion years ago and extending to the dawn of dinosaurs, about 200-million years ago. Jean-Bernard Caron, curator of Invertebrate Palaeontology and lead curator of the new gallery, says the facility will help visitors "understand that the tapestry of life that we know today is the result of billions of years of evolution, and that all life forms, including ourselves, are deeply connected."

The Gallery of Early Life represents an evolution in the way museums interact with patrons: it will include a multi-functional space for programming, teaching, and screenings of documentaries about evolution and ancient life. Full-size reconstructions of certain organisms and touchable specimens will make the experience come alive.

Located on the second floor, the new gallery, fittingly, will physically connect the Schad Gallery of Biodiversity and the Teck Suite of Galleries with its minerals and gems. "The Gallery of Early Life will occupy one whole wing of the 1933 Museum of Palaeontology, with those very words carved in stone above the entrance," points out David Rudkin, assistant curator of Invertebrate Palaeontology—the carved name a nod back to the Museum's own storied past, when the ROM consisted of five separate museums.

Like then, the new gallery will showcase unique Canadian content, including fossils from several UNESCO World Heritage Sites, while emphasizing curatorial fieldwork and the research that palaeontologists do largely behind the scenes. As Caron puts it, "The Gallery of Early Life at the ROM is long overdue and will be a new and exciting addition to the Museum." ○

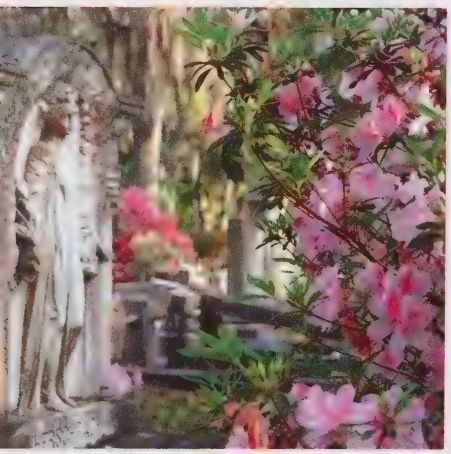
SHEEZA SARFRAZ, a writer/researcher at the Royal Ontario Museum Press, is an editor of *ROM* magazine.

To learn more about how you can support the creation of the Gallery of Early Life visit **rom.on.ca/support**.

3D animation by Phlesch Bubble © Royal Ontario Museum. Photo: Jean-Bernard Caron.

Southern Charms

Join the ROM as we tour Charleston and Savannah, two of the most historic cities in antebellum America



Top: Charleston's Festival of Houses and Gardens opens seldom-seen homes and grounds to the visiting public

Bottom: Savannah's Bonaventure Cemetery is a must-visit when in the U.S.'s "most haunted" city.

ROMtravel is thrilled to announce a Spring 2014 guided tour of Charleston and Savannah, two of the American Old South's most historic and appealing cities. Both charm with their beautiful architecture, lush gardens, delicious food, and legendary southern hospitality.

Founded in 1670, Charleston, South Carolina, has survived hurricanes, earthquakes, pirates, and both the Revolutionary and Civil wars to become one of the U.S.'s most storied and alluring cities. It is, says bestselling author Pat Conroy, "so pretty it makes your eyes ache with pleasure just to walk down its spellbinding, narrow streets." It may sound corny but a carriage ride over cobblestoned streets paved with centuries-old ballast and lined with graceful antebellum homes is an absolute highlight, recommended by those in the know. You'll visit the plantations of Drayton Hall and Middleton Place, and wander the past through alleys of azaleas and moss-draped oaks. The ROMtravel tour is timed to coincide with Charleston's annual Festival of Houses and Gardens, when elegant private homes and gardens are opened to the visiting public.

Then on to Savannah, Georgia: with its 22 public squares embellished with fountains and monuments, magnolias and camellias, it is a masterpiece of urban design. You'll visit the Bonaventure Cemetery, made famous in John Berendt's *Midnight in the Garden of Good and Evil*, where canopies of live oaks guard elaborate statuary and headstones. Explore Savannah's atmospheric streets by night on a ghost tour of what is said to be America's most haunted city. Immerse yourself in the vital art, music, and language of the Gullah people—descendents of Africans brought to the U.S. more than 200 years ago.

Of course no trip to the Old South would be complete without sampling the regional culinary specialties. We'll make sure you experience local cheese biscuits, hoecakes, red rice, and candied yams. You'll try the best of fresh seafood, from Frogmore Stew (guaranteed frog-free), to shrimp and grits and, of course, crab cakes. For dessert, expect benne wafers and pralines, accompanied by plenty of the region's famous icy "sweet tea."

ROMtravel's tour of Savannah and Charleston is a must for lovers of fascinating history, fine dining, and the genteel charm of an earlier era.

When: April 2014. For more information: Contact ROMtravel at 416.586.8034, email travel@rom.on.ca, or visit rom.on.ca/programs/rom_travel. o

UPCOMING TRIPS

Place	Date
The Arctic	July 27 to August 6, 2013
Chicago	September 23 to 27, 2013
Bhutan, Nepal, and Tibet	October 6 to 24, 2013
South India and Sri Lanka	February 2014
Argentina	April 2014
American Old South	April 2014
Southern Spain and Morocco	April 2014
China	September 2014
Namibia	October 2014
Chile	January 2015

Member News

Special Events, Updates, Benefits and More

It's All About Access

In my ongoing conversations with our membership one thing is clear: for ROM Members, it's all about "access." Whether it is a peek behind the scenes, early previews to exhibits, or chats with curators and other experts, these insights and experiences are what members value most. Today we are working harder than ever to make that access a big part of the ROM experience.

As the ROM continues to implement its new strategic plan, we are working to focus even more on our visitors and Members, providing easier access to our materials, our innovative research, and our curatorial expertise. A key component of the plan is to create new ROM-wide Centres of Discovery that connect and interpret our massive collection in new and innovative ways.

Another crucial component to improving access for one and all (and especially our Members) is already underway. If you have visited our website (rom.on.ca) in the last few months, you likely noticed some big changes. I must say I am excited about the snazzy, easy-to-navigate structure, the dynamic new content that is starting to flow in, and the enhanced access to the fascinating people and collections that make the ROM one of the top museums in the world.

Adding to these enhancements, we will be building also on the success and great tradition of our Friends Groups, particularly their role fulfilling our Members' desires for information and events of personal interest. I am very excited to let you know that this spring we will be expanding the Friends' program to encompass the themes of our Centres of Discovery. As part of this process we will be reaching out to you, our Members, to identify specific areas of interest and curiosity. That will help us in the future to communicate with you more effectively about the programming and experiences that are of most interest to you.

As head of membership, I am fortunate to experience the enthusiasm, curiousity, and support of you, our Members. We look forward to sharing with you all the world-class research and discoveries that surround the ROM every day. And on the subject of innovative access, don't forget, you can follow me and others at the ROM in social media, on Twitter @ROMToronto and on our Facebook page.

Martha Henderson

MARTHA HENDERSON
HEAD OF MEMBERSHIP AND SALES

MEMBER PREVIEWS

Mesopotamia, 3000 years of civilization
> Friday, June 21, 2013
10 a.m. to 6:30 p.m.

Between Princely India & the British Raj: the Photography of Raja Deen Dayal
> Friday, April 19, 2013
10 a.m. to 8:30 p.m.

MEMBER INFORMATION

ROM MEMBERSHIP LEVELS
NEW! ROM Social: $149
Individual: 1 year $97; 2 years $172
Family/Dual: 1 year $149; 2 years $269
Senior Family: $145
Non-Resident: 1 year $102; 2 years $183
Student: $54
Curators' Circle: $189
Museum Circle: $323
Directors' Circle: $626
Young Patrons' Circle: $600+
Royal Patrons' Circle: $1,800+
Explorers' Club: $15 (in addition to ROM Membership)

TELEPHONE NUMBERS
Switchboard: 416.586.8000
RPC and YPC: 416.586.5842
Bell Relay Service: 711
School Groups: 416.586.5801
Museum Volunteers: 416.586.5513
ROM Museum Store: 416.586.5766
c5 Restaurant/Lounge Members Reservation Line: 416.586.8095
Donations: 416.586.5660

Attention Members: Your privacy is important to us. The Royal Ontario Museum (ROM) and the ROM Governors (the ROM's charitable foundation) share a special relationship and you may receive additional information from each.

If you do not wish to receive it, contact membership@rom.on.ca or call 416.586.5700.

Occasionally, we make our list of supporters available to other carefully screened cultural organizations and selected groups that may be of interest to you. Please understand that by allowing us to exchange your name, you are helping us support the ROM's education and research mandates. If you prefer not to have your name exchanged, please contact us at membership@rom.on.ca or call 416.586.5700.

The ROM Membership Department operates a telemarketing office. Should you prefer not to be contacted by telephone, please contact us at the e-mail address or phone number listed above and we will have your number removed from our list.

Membership Services:
t: 416.586.5700
e: membership@rom.on.ca
web: rom.on.ca/members

Photos: Mesopotamia artifact courtesy The British Museum, Striding lion, ROM 937.14.1. *Mr. J. N. Tata & family*, C. Schultz, staff photographer, Raja Deen Dayal & Sons, courtesy Peabody Essex Museum, PH81.52.

MEMBER PREVIEW

COMING SUMMER 2013

Mesopotamia

> Friday, June 21, 10 a.m. to 6:30 p.m.

Thousands of years before Tutankhamen, millennia before the first Greek democracy, there was ancient Mesopotamia. Truly, the cradle of civilization.

Join us for a special Member Preview of *Mesopotamia* before it opens to the public. Explore the ancient lands of Sumer, Assyria and Babylon, from the foundations of the earliest settlements (c. 6500–4000 BCE), to the beginning of written history (c. 3100 BCE), to the fall of Babylon (c. 539 BCE). You'll discover the birthplace of writing, law, and mathematics. For the first time ever at this scale in North America, one of the great civilizations is revealed. Exhibition is on display from June 22, 2013, to January 5, 2014.

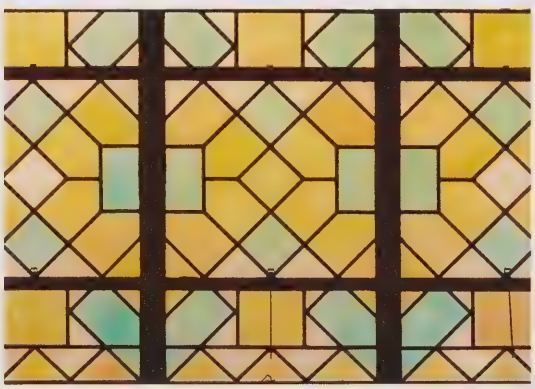
> Exclusive Member preview on June 21, 2013.

INSIDERS' WALKS EXCLUSIVELY FOR ROM MEMBERS

Let There Be Light: Stained Glass Windows and Architecture

> Wednesday, March 20, 2013, 1 p.m.

View the architecture and stained glass of the ROM and the Church of the Redeemer. You will have an opportunity to see a rare set of Pre-Raphaelite windows by Henry Holiday in the Lillian Massey Building.



Instruments and Architecture: An Insider's Walk

> Sunday, March 24, 2013, 2 p.m.

In the final instalment of Insiders' Walks, join us to explore architecture with a musical theme. We'll tour the interiors of the ROM, the Royal Conservatory of Music, and the Edward Johnson Building of the Faculty of Music, University of Toronto.

Tours are exclusively for ROM Members. For both Insiders' Walks, meet in the Rotunda, Level 1, and look for the blue ROMwalks umbrella. Registration is required as space is limited. To register, visit rom.on.ca/whatson or call 416.586.8097.

FREE ADMISSION TO SIX CANADIAN MUSEUMS AND ART GALLERIES

ROM Members can enjoy free general admission to: Art Gallery of Nova Scotia (Halifax), Glenbow Museum (Calgary), Kamloops Art Gallery, McCord Museum of Canadian History (Montreal), Montreal Museum of Fine Arts, and Vancouver Art Gallery.

Valid ROM membership card(s) and identification must be presented upon arrival. Admission may not include guests, entrance to blockbuster exhibitions, or ticketed programs and events.

FACE 2 FACE

Exclusive Event Series for ROM Members

Face2Face is our series of free gallery experiences led by the ROM's own experts. Join them for gallery tours and hear about their latest research, recent acquisitions, and favourite objects. Walks begin at 11 a.m. and are approximately 45 to 60 minutes. There will be time for questions.

Upcoming dates:

>Tuesday, April 16, 2013, 11 a.m.
Silvia Forni (Anthropology): *Building a Collection*, Shreyas and Mina Ajmera Gallery of Africa, The Americas, and Asia-Pacific.

>Tuesday, May 21, 2013, 11 a.m.
Deborah Metsger (Botany) and Mary Burridge (Ichthyology): *The Story Behind the Gallery: Life in Crisis*, Schad Gallery of Biodiversity.

>Tuesday, June 18, 2013, 11 a.m.
Allan Baker (Ornithology) discusses his 17 years tracking and studying the Red Knot, the ultimate long-distance migrating shorebird.

Please note that registration is required as space is limited. Register: rom.on.ca or 416.586.5700. No waiting lists.

Member Profile

LEARNING TO BELONG

For this young family from Brazil, the ROM was the key to their new lives

When Danielle Duperron, Helio Wei, and their eight-year-old daughter, Maya, moved to Toronto from Brazil three years ago, they left a lot behind, says Danielle now. "Our family, our friends, our home, our root culture—but we felt we had to, for our futures, and our daughter's future."

They really didn't know much about Canada or Toronto. While their immigration status was pending, Maya was unable to attend school for nearly six months. Danielle, a video professional, was concerned: "I didn't want Maya to feel lost. I knew we couldn't just sit in our little apartment. We had to do something."

Inspired by Maya's passion for dinosaurs back in Brazil, Danielle thought the ROM might be a good place to start. It clearly was. "Maya was so excited! We ended up coming nearly every day to explore another part of the museum." After only a few visits, the merits of a family membership were obvious; they would be able to come as often as they pleased.

It wasn't long before Maya had explored the Museum's entire collection, and even memorized displays and extended portions of the guided tours. So much so that when her grandparents arrived for a visit, Maya was adamant that they should come to her very favourite place... and she would lead the tour. "It was amazing!" says her mother today. "She was learning more every day. I realized it that day when I heard her with her grandparents. They were impressed, too."

Most importantly, says her mother now, "we learned about Canada. We learned the history of the First Nations. We learned that it is a huge land—even bigger than Brazil—and we learned that immigration created this country. That was important for us. We felt, 'we belong.'" Danielle says the ROM is like "a Rosetta Stone. It connected us to this country's history and allowed us to interpret and learn so much."

Danielle, Helio and daughter, Maya, in the Daphne Cockwell Gallery of Canada First Peoples. The ROM is like "a Rosetta Stone. It connected us to this country's history."

ROM SOCIAL MEMBERSHIP

NEW ONLY $149

Love the ROM? Want to bring a friend along? The new ROM Social Membership is for you! Unlike a traditional Dual Membership, ROM Social Membership allows you to bring a different guest each visit to the Museum, including special exhibitions and events like our very popular ROM Friday Night Live!

Find out more at rom.on.ca/members or call 416.586.5700.

2-FOR-1 ADMISSION TO GARDINER MUSEUM FOR ROM MEMBERS

Present valid ROM membership card(s) and identification at the Gardiner Museum and receive 2-for-1 admission, plus a 10% discount at the Gardiner gift shop.

Photos: ROM Social, Grant Gaspari. Museum courtesy Gardiner Museum.

ROM EXPLORERS' CLUB EVENT

Go Wild!

> Sat., May 4, 2013, 10 a.m. to 2 p.m.

Exclusive for Explorers' Club Members. Registration is required.

Join us for another fun-filled day with loads of crafts, activities, exciting hunts, and more! Don't forget to bring your ROM Explorers' Club passport and have it stamped. Watch for more details in our spring newsletter. Adult must accompany the child.

To register: visit www.rom.on.ca/members/events or call 416.586.5700.

ATTENTION MEMBERS: CALL FOR NOMINATIONS

MEMBERSHIP-ELECTED TRUSTEE POSITION ON THE ROM BOARD

The Royal Ontario Museum is governed by the ROM Act (1968) which established a Board of 21 Trustees. The Act mandates that 3 of the 21 Trustees are to be elected by the ROM's membership. One membership-elected Trustee position becomes vacant June 30, 2013. Nominations for this position will be accepted by the Office of the Secretary to the Board until noon on Thursday, April 4, 2013. Each nomination must be supported by the signatures of 25 active ROM members (please include membership numbers). The vacant term of office is July 1, 2013, to June 30, 2016. Should more than one duly nominated candidate be eligible, an election will be held. If you are interested in pursuing a membership-elected Trustee position on the ROM Board of Trustees please call the ROM Board Office at 416 586 5886 for further details.

ROM FRIENDS

The First Nations' Role in the War of 1812–1814

> Wednesday, May 29, 4 to 6 p.m.

Free for FCC Members, $10 for non-FCC Members

It was a war between the British/Canadians and the Americans, but the First Nations played an important part. Join Dr. Trudy Nicks, ROM senior curator, World Cultures Department, as she explains this dimension of the War of 1812. Refreshments will be served.

Registration is required. Register: rom.on.ca, click date on calendar or call 416.586.5797.

Brought to you by the Friends of The Canadian Collections / Amis des collections canadiennes as part of the Annual General Meeting.

PLANNING A BIRTHDAY PARTY?

Experience a one-of-a-kind party at the ROM! Spend the day exploring the galleries, enjoying a private tour, or playing a scavenger hunt. Feast on a delicious lunch and sing happy birthday over delicious cupcakes!

Guided Tours – $5*
Pizza Lunch – From $9.95*
Scavenger Hunts – From $5**

* Cost per person; minimum of 20 paid guests
** Cost per person; minimum of 50 paid guests, or flat rate $250

Member Offer – ROM Members receive free admission to the ROM, so all those covered under your membership will only pay for their meal and added birthday activities! For more information call 416.586.5801 or visit groupsales@rom.on.ca.

ROM MEMBERSHIP AND YOU

By giving us your e-mail address you will receive notice of events and special offers, exclusive Member Events, and advance notice of special programs and events.

Prepare for your ROM visit by consulting the Museum's Visitor Policy at rom.on.ca/ en/visit-us/vistor-information.

ROM Governors

ANCIENT WORLDS SPARK NEW WAYS TO SUPPORT THE ROM

Past, present, and future converge this spring

Mesopotamia, opening in June at the ROM, will offer visitors a thought-provoking look at a long-lost world that is surprisingly connected to our modern lives. Young Patrons Circle (YPC) and Royal Patrons Circle (RPC) Members will enjoy an exclusive sneak peek at this highly anticipated blockbuster exhibition at a special Patrons Preview on June 19, 2013.

In celebration of *Mesopotamia*, this year's annual PROM fundraiser on April 6, 2013, is a contemporary party inspired by past civilizations. In addition to shining a spotlight on our curatorial talent and collections in these areas, this year's creative theme offers a great opportunity to showcase YPC's fantastic support of *Mesopotamia* as an Exhibit Patron, which you can read more about on page 44. Special thanks to the many generous sponsors, partners, and volunteers who help make this event one of the most successful and sought-after in the city.

Launching later this year, ROM Ancient Cultures will be one of the Museum's innovative future Centres of Discovery, helping visitors make sense of how past societies inform our lives and help us plan for the future. ROM experts and strategic partnerships will ensure dynamic experiential learning for children and adults alike. Turn to page 20 to meet Rae Ostman, the bright new managing director of the Centre for Ancient Cultures.

There are many exceptional philanthropic investment opportunities in ROM: Ancient Cultures, including the chance to endow a Chair in Canadian Archaeology—the first of its kind—to study the cultural history of Canada, support a leading lectureship series that will host world-renowned speakers at the Museum to build community, stimulate conversation, and contribute to an essential Research Discovery Fund and Collections Digitization Fund for the future.

Dianne Lister in the Gallery of Chinese Architecture

We are constantly looking for ways to engage and excite our donors, sponsors, and volunteers so please reach out to us if you are interested in learning more about any of our upcoming fundraising events or philanthropic priorities—we would love to hear from you!

Dianne Lister

DIANNE LISTER
PRESIDENT AND EXECUTIVE DIRECTOR, ROM GOVERNORS

LOVE the ROM
We'll be reaching out soon to our donors, patrons, and members with some exciting plans for the ROM's centennial in 2014.
We hope you will support our campaign and show your love for the ROM!

Photo: George Whiteside Photography.

ROM BOARDS

PATRONS
His Excellency the Right Honourable David Johnston, C.C., C.M., C.D., Governor General of Canada, The Hon. David C. Onley, O. Ont., Lieutenant Governor of Ontario

BOARD OF TRUSTEES
Won J. Kim (Interim Chair), Carol Wilding (Vice-Chair), Mohammad Al Zaibak, Bonnie Brooks, Danuta Buczynski, Martha Durdin, Ronald Graham, Christopher Jamroz, Elsie Lo, Barbara Milstein, Elaine Roper, Colin Saldanha, Keith Spence, Atul Tiwari

EX-OFFICIO
Janet Carding, Dr. David Naylor, Richard Nunn

BOARD OF GOVERNORS
Robert E. Pierce (Chairman), Linda Hasenfratz (Vice-Chair), Shreyas Ajmera, Elyse Allan, Salvatore (Sal) M. Badali, John Bianchini, Mary Anne Bueschkens, Michael E. Detlefsen, Thor Eaton, W. Robert Farquharson, Gwen Harvey, Jennifer Ivey Bannock, Vijay J. Kanwar, Robert Keilty, Michael Lee-Chin, Dianne Lister, LL.B., Rebecca MacDonald, Joseph (Joey) M Tanenbaum, C.M., James C. Temerty, C.M., Rita Tsang, Harriet Walker, V. Prem Watsa, Richard S. Wernham, Alfred G. Wirth

EX-OFFICIO
Janet Carding, Won J. Kim, Donald M. Ross, O.C.

HERITAGE GOVERNORS
Donald M. Ross O.C. (Chair), Rudolph (Rudy) Bratty, Robert D. Brown, G. Raymond Chang, Jack Cockwell, Fredrik Eaton, O.C, O. Ont., Robert Gillespie, Kenneth W. Harrigan, Patricia Harris, Richard M. Ivey, C.C., Q.C., The Hon. Henry N. R. Jackman, Thomas Kierans, Elsie Lo, Susanne Loewen, Stephens B. Lowden, Brenda McCutcheon, Jack McOuat (past-Co-Chair), Frank Milligan, Dixie Anne Montgomery, Frank Potter, Joan Randall, Wendy Rebanks, Flavia C. Redelmeier, John A. Rhind, Joan Thompson, Lynton R. Wilson

SENIOR STAFF
Janet Carding (Director and Chief Executive Officer), Glenn Dobbin (Deputy Director, Chief Operating Officer, and Secretary to the Board of Trustees), Mark Engstrom (Deputy Director, Collections and Research), Dianne Lister, LL.B. (President and Executive Director, ROM Governors)

GET IN TOUCH
t: 416.586.5660
e: diannel@rom.on.ca
web: rom.on.ca/support

PATRONS ON A MESOPOTAMIA MISSION

YPC SUPPORTS BLOCKBUSTER EXHIBITION AT THE ROM

Since its launch in 2005, Young Patrons Circle (YPC) donors have contributed over $1.3 million to the ROM. This year the group is breaking new ground by generously supporting *Mesopotamia*—the ROM's upcoming blockbuster exhibition—as the show's Exhibit Patron. "Many of our patrons are interested in ancient cultures and we're looking forward to helping the ROM bring visitors a modern take on Mesopotamia," says YPC Chair Anna-Maria Kaneff. "We're also introducing a fun, ancient twist to our annual fundraising event PROM on April 6, 2013, in celebration of our support of this exhibition."

Set to make its Canadian premiere at the ROM on June 22, 2013, *Mesopotamia* will explore more than 3,000 years of ancient history, the impact of which still reverberates today. "It was in Mesopotamia that the world saw the rise of first cities, of a writing system, and of mighty empires ruled by iconic kings and controlled by elaborate bureaucracies," says Clemens Reichel, the ROM's associate curator of Ancient Near Eastern Archaeology.

YPC offers a unique and personal way to experience the ROM. Young professionals with a passion for natural history and world cultures make an annual philanthropic gift to the Museum and enjoy exclusive access to ROM exhibitions, galleries, curators, vaults, and private collections.

Patrons will have the opportunity to attend a special sneak peek of *Mesopotamia* and hear firsthand about the fascinating history of this ancient civilization from ROM curators.

Ancient lion adornment featured in *Mesopotamia*, in the Garfield Weston Exhibition Hall, Michael Lee-Chin Crystal.

SAVE THE DATE

UPCOMING YOUNG PATRONS CIRCLE (YPC) AND THE ROYAL PATRONS CIRCLE (RPC) EVENTS:

CURRELLY SOCIETY AND RPC LECTURE
April 3, 2013
A daytime talk on the future presence of Islamic art collections in Toronto.

ANCIENT PROM
April 6, 2013
YPC's signature fundraiser and most highly anticipated dance party!

RPC BEHIND-THE-SCENES TOUR
April 18, 2013
A unique opportunity to visit four areas of the Louise Hawley Stone Curatorial Centre, followed by a wine and cheese reception with curators.

YPC COLLECTION ADVENTURES IN CHICAGO
April 26 to 28, 2013
This year's trip will sweep patrons away to the Windy City.

YPC PRESENTS THE ART OF COLLECTING
May 14, 2013
Get an exclusive after-hours look at the exhibition *Sebastião Salgado: Genesis* and hear from an expert on how to start your own photography collection.

PATRONS' PREVIEW OF *MESOPOTAMIA*
June 19, 2013
Thousands of years before Tutankhamen; millennia before the first Greek democracy, there was ancient Mesopotamia—the cradle of civilization. Join us for an exclusive preview and cocktail reception.

Interested in learning more about becoming a patron? Contact Jessica Hall-Cummings at 416.586.8003 or jessicah@rom.on.ca

MATCH WITS WITH ROM CURATORS

A SPECIAL INVITATION TO ALL FIFTH GRADERS

Calling all bookworms and brainiacs in grade five! Think you have what it takes to outsmart a curator? Find out by taking our student challenge for a chance to win a class trip to the ROM this spring. The winner will go head-to-head with star curators at *Fact or Fiction* in fall 2013.

Embrace your storytelling and artistic skills or work together with teachers and classmates to decode the true nature of a mysterious object from out of the ROM's vaults. Your narrative answer can take many forms: written, video, photo, Bitstrips comic, and more—be creative! The top 10 finalists will enjoy a class visit to the ROM and a chance to attend this year's *Fact or Fiction* event. Select contest entries will be compiled and presented to guests at the event.

Fact or Fiction is the Museum's signature fundraising event in support of world-class curatorial research and educational programs at the ROM.

For more information on how to participate in the student challenge, visit **rom.on.ca/support** or contact Ann Whittall at 416.586.5772 or annw@rom.on.ca.

ANCIENT PROM

Saturday, April 6, 2013

Tux or toga? Gold bangles or head jewellery? Get ready to step back in time and experience an epic party worthy of an ancient empire.

Channel your inner gladiator or goddess and enjoy an unforgettable night of live entertainment and dancing, luxurious lounge areas, and gourmet fare. For tickets and information, visit **www.rom.on.ca/prom**.

PROM is the annual Young Patrons Circle (YPC) fundraising event for the ROM. Proceeds support the ROM's highest priorities, including engaging exhibitions, galleries, and programs. YPC is a proud Exhibit Patron of *Mesopotamia*.

PLATINUM SPONSOR
GOLD SPONSOR
presidentialgourmet
SILVER SPONSORS
Chair-man Mills
PORSCHE DESIGN
BRONZE SPONSORS
eska
1664
[yellow tail]
PARTNERING SPONSORS
the CAVIAR CENTRE
icon
Somerset
MEDIA SPONSORS
AIR CANADA enRoute
TORONTO LIFE
MTV
CP24
She·does the City
PATRON SPONSOR
STONEGATE PRIVATE COUNSEL

Top photo: A.J. Messier Photography.

GWEN HARVEY
AN ADVOCATE FOR WORLD CULTURES

Like many mothers in Ontario, Gwen Harvey brought her children to the ROM to see the gigantic dinosaurs and experience the spooky fun of the Bat Cave. But she also introduced them to the Museum so they could learn about different cultures from a young age. "I wanted my children to have a strong understanding of the traditions and backgrounds of other families, and to open their eyes to a larger world outside of Toronto," she says.

As a teenager, Gwen started a multicultural week at her high school. She grew up in England, has travelled extensively with her family and feels incredibly lucky to be Canadian. "There's a remarkable wealth of cultures represented here," Gwen says. "The ROM increases our understanding and appreciation of cultural diversity, while celebrating and preserving our heritage for future generations. It's also a place that inspires dialogue and creates a sense of belonging to a community."

Gwen has been a long-time friend and supporter of the ROM. She was first encouraged to become involved in the life of the Museum by Robert Pierce, now chairman of the Board of Governors. Over the past decade, Gwen has been a valued member of the Donor Events Committee, the *Fact or Fiction* Committee, and the Renaissance ROM Campaign Cabinet. She has also chaired the Currelly Society Executive and continues to serve as an active member on the ROM Board of Governors.

As a passionate member of the Currelly Society, Gwen is part of a group who have promised future gifts to the ROM. Drawing on her knowledge of financial planning as the President of BridgeWater Family Wealth Services, Gwen chose to support the ROM through a gift of life insurance. By naming the ROM as the owner and beneficiary of a life insurance policy, Gwen has left a significant legacy gift to the Museum, and the premiums she pays each year become a tax-deductible gift. "The ROM is so essential to our city because it helps us understand the world around us," she says. "But it would be a fraction of what it is today without the important support from donors, patrons, and corporations."

To learn more about the Currelly Society or how you can support the ROM through planned giving, please contact Janice Correa at 416.586.5578 or janicec@rom.on.ca.

Gwen Harvey in the Sir Christopher Ondaatje South Asian Gallery

WILLS & ESTATE PLANNING SERIES

Save the date: Free sessions at the ROM presented by the Museum's Gift Planning Professional Advisory Committee

WILL PLANNING GUIDE
March 6, 2013 | 1:30–3 p.m.
Learn about the critical issues involved in creating a will. Presented by Mary Anne Bueschkens, LL.B., Counsel at Heenan Blaikie, and Lindsay Histrop, LL.B., LL.M, Counsel at Cassels Brock.

ESTATE PLANNING
May 1, 2013 | 6:30–8 p.m.
Hear about how to choose an estate trustee or executor, when to set up a trust, and the benefits of leaving a legacy. Presented by Michael Mallinos, Principal at Stonegate Private Counsel.

CHARITABLE LIFE INSURANCE
September 11, 2013 | 1:30–3 p.m.
Discover how life insurance can be an estate-planning tool, help protect inherited assets, reduce taxes, and multiply philanthropic gifts. Presented by Gwen Harvey, President of BridgeWater Family Wealth Services.

RSVP to Janice Correa at 416.586.5578 or janicec@rom.on.ca. For more information on how to start planning your gift, please visit **www.rom.on.ca/support.**

ALF WIRTH
A MUSEUM AFICIONADO

ROM Governor Alf Wirth has visited hundreds of museums around the world. We caught up with him in the Wirth Gallery of the Middle East—one of many ROM initiatives he has generously supported—to talk about his passion for arts and culture.

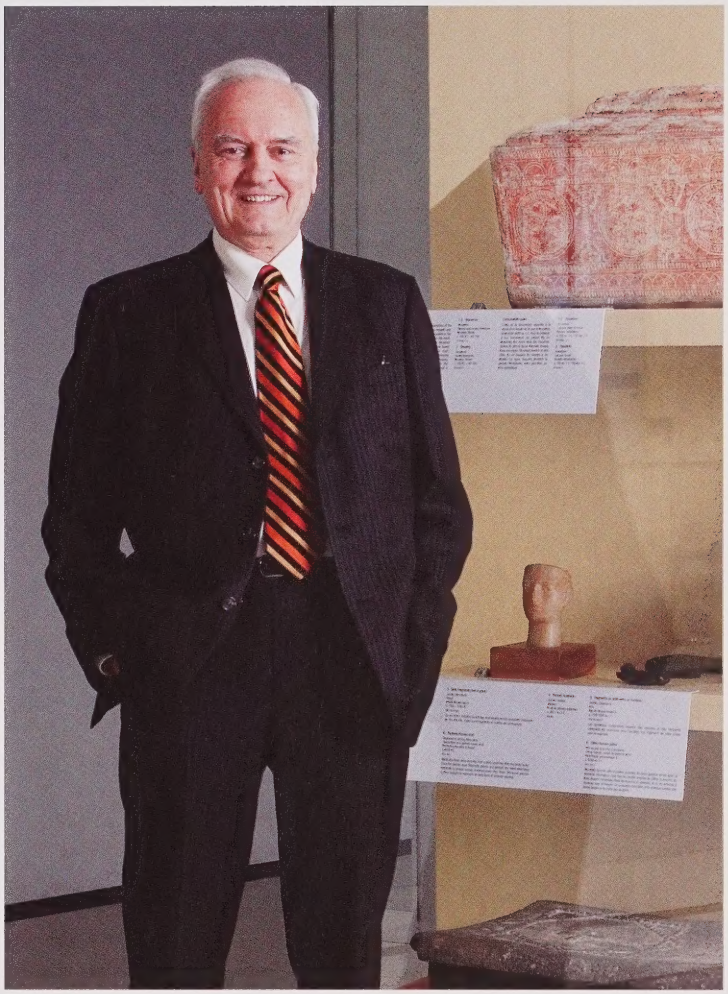
"I used to come to the ROM with my dad," recalls Alf Wirth. "I loved the totem poles; back then they seemed to go on forever and now they're not quite as tall as I remember them...but they made a real impression on me."

A self-confessed artifact collector, he has visited most of the world's major museums and holds memberships to cultural institutions at home and abroad. "We have something unique and wonderful in the ROM," says Alf. "The new structure is impressive and the Museum's dual mandate for natural history and world cultures is unique. This sets us apart and represents a major plus for Toronto and the world."

Alf is a dedicated philanthropist who sees himself as a "global citizen." He donates to a range of local, national and international organizations including University Health Network, the University of Alberta, and SOS Children's Villages.

In 2007, Alf generously supported the Wirth Gallery of the Middle East as he wanted people to know more about this critically important region. The Fertile Crescent is where religion, agriculture, writing and "our civilization" started. "It's about giving people a sense of their common roots and connecting them to each other. You can draw a fairly straight line from there to where we are now," he says.

Looking to the future, Alf sees the ROM as an indispensable resource for opening people's minds. He's pleased to see the ROM become a Museum of the 21st century—complete with iPhone apps and multimedia exhibits—but believes the traditional objects and real specimens make the Museum a magical place for children. "I took my grandsons to a museum and all the kids stood around a mounted buffalo that was close to my height. It's the hands-on activities—like touching a dinosaur tooth or holding crystals—that have a huge impact on the kids."



Alf Wirth in the Wirth Gallery of the Middle East.

STANDARD LIFE PARTNERS WITH THE ROM TO BRING MORE KIDS TO THE MUSEUM

Standard Life is helping more students experience the Museum thanks to their generous support of the ROM's School Visits Bursary Program.

As a leading long-term savings and investments company, Standard Life has a long-standing commitment to building and supporting communities. Through donations, sponsorships, and an employee community engagement program, Standard Life strives to make a meaningful difference in the lives of young Canadians.

And what better way to accomplish this than by helping students who may otherwise not have the chance to broaden their education with a school visit to the ROM? The School Visits Bursary Program—which aims to enhance students' understanding of natural history and world cultures—includes admission, gallery tours, interactive activities related to the school's curriculum, and access to the Museum's 30,000-square-foot Learning Centre used for workshops, demonstrations, and hands-on creative experiences.

"The ROM School Visits Bursary Program is a wonderful way for us to give back to the community," says Jennifer Gregory, Vice President, Business Development from Standard Life. "Students have the opportunity to handle real artifacts and specimens from the ROM's world-class collections and enjoy meaningful learning experiences outside the classroom."

The ROM is proud to recognize Standard Life for its generous support of the School Visits Bursary Program.

Standard Life

Doni the Komodo Dragon, RIP

The skeleton of the Toronto Zoo's beloved monster finds a home in the Schad Gallery as part of a worldwide biodiversity campaign

BY NICOLE RICHARDS

Varanus komodoensis is truly an imposing reptile. Known to most as the terrifying Komodo dragon, it is documented at growing to more than 3 metres and over 80 kilograms in the wild. Most famous for its lethal bacteria-laden bite, the Komodo was only recently discovered to also be venomous!

However, its large size and fearsome reputation have not been able to save this species from the same peril of extinction that faces many species on our planet. Komodo dragons have a very limited geographical range, being unique to the island of Komodo and a handful of nearby islands in Indonesia. There, despite its ferocity and its position firmly atop the local food chain, it is at risk of disappearing, mostly due to decreasing habitat and the loss of much of its prey. Recent estimates suggest there are fewer than 3,000 left in the wild.

The loss of a top predator in any ecosystem can have dire consequences, and the Komodo dragon plays a pivotal role as both predator, keeping plant-eating grazers in check, and as scavenger, breaking down large dead animals on the harsh volcanic islands it inhabits. It is also shocking to think that we could lose creatures that not only pique our imagination but provide us with insights into a prehistoric world when lizards of incredible size were the norm, not the exception.

As part of an awareness campaign, we at the ROM have been working for more than a year to prepare a skeleton of this unique species for display in the Life in Crisis: Schad Gallery of Biodiversity. But this skeleton won't be that of just any Komodo dragon. The ROM will be displaying a particular giant whom many Torontonians have already come to know! Like Bull, the White Rhinoceros that greets visitors as they enter the Schad Gallery, Doni the Komodo dragon spent much of his life at the Toronto Zoo.

Brought to Toronto in 2002 as part of the Komodo Dragon Species Survival Plan (a program where species at risk are managed to secure healthy and genetically diverse populations within accredited facilities), Doni came from the Minnesota Zoo to partner with females at the Toronto Zoo. During his nine years at the Toronto Zoo, Doni sired seven offspring, became a grandfather before his death, and as he progressed in age was fitted with a special wheeled cart to help him get around. Doni died in 2011 at 24 years of age, after making an important contribution to the continuation of his species. His progeny are living in various zoos in North America and Europe, among them Doni's son, Kilat, who lives at the Toronto Zoo. ○

If you would like to learn more about the Schad Gallery or about the intricate and occasionally gruesome process of preparing Doni's skeleton for display (with flesh-eating bugs!), check out our video, images, and blogs at **rom.on.ca** (just search Komodo from our home page and then prepare to be amazed).

NICOLE RICHARDS is the gallery and program coordinator of the Schad Gallery of Biodiversity.

SEAN YELLAND

Yellow House (2013) 48 x 48 inches oil on canvas

In Silence | March 7 - 27 . 2013

ingram
GALLERY 49 Avenue Road, Toronto 416-929-2220 www.ingramgallery.com

LEXUS
THE PURSUIT OF PERFECTION

THERE'S NOT A SINGLE REFINEMENT THAT MAKES IT EXCEPTIONAL. THERE ARE HUNDREDS.

Introducing the All-New 2013 Lexus ES 350 and ES 300 Hybrid.

When it comes to powerful styling and performance, the All-New 2013 Lexus ES delivers the exceptional, down to the smallest detail. Its 5mm lower body conveys a sportier, more assertive stance. Enhanced handling comes courtesy of 28 extra spot welds, contributing to its improved rigidity. And with 60mm more rear legroom, every passenger will enjoy its even more spacious cabin. The list of refinements to the All-New 2013 Lexus ES is as endless as is the driving excitement it delivers. To explore all the innovative details that make the ES such a big breakthrough, visit the ES website.

es in the details.ca